



Galen and the World of Knowledge

Edited by
Christopher Gill,
Tim Whitmarsh and John Wilkins



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GALEN AND THE WORLD OF KNOWLEDGE

Galen is the most important medical writer in Graeco-Roman antiquity, and also extremely valuable for understanding Graeco-Roman thought and society in the second century AD. This volume of new essays locates him firmly in the intellectual life of his period, and thus aims to make better sense of the medical and philosophical 'world of knowledge' that he tries to create. How did Galen present himself as a reader and an author in comparison with other intellectuals of his day? Above all, how did he fashion himself as a medical practitioner, and how does that self-fashioning relate to the performance culture of second-century Rome? Did he see medicine as taking over some of the traditional roles of philosophy? These and other questions are freshly addressed by leading international experts on Galen and the intellectual life of the period in a stimulating collection that combines learning with accessibility.

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Christopher Gill, Tim Whitmarsh and John Wilkins

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TIM WHITMARSH
JOHN WILKINS



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Note on conventions

References to Galen's works are given in Roman and Arabic numerals to the standard Kühn edition of his works (unless the work is not included in Kühn), e.g. *PHP* V.408 (sometimes with the addition of Kühn or K.). Where more modern editions exist, these are often also cited. Some examples of such citations follow:

SM 1.23.11–12 (= *Scripta Minora* vol. 1, page 23, lines 11–12).

PHP 4.6.19, 274.13–14 De Lacy (= De Lacy's edition of *PHP*, Book 4, chapter 6, paragraph 19, page 274, lines 13–14).

CMG V.4.1.1, 23.17 (= *Corpus Medicorum Graecorum*, vol. V.4.1.1, page 23, line 17).

For a list of the Latin abbreviations used in this volume for Galen's works (e.g. *PHP*) together with their full titles, in Latin and English, see (a) below. All Galen's works discussed in the volume are also listed by English title (with Latin titles and abbreviations, where these exist) in (b) below. The titles and abbreviations used are based on R. J. Hankinson (ed.), 2008. *The Cambridge Companion to Galen*, Cambridge, which contains a full list of all Galen's works in 391–403. Editors' names (e.g. De Lacy in the previous example) refer to commonly used modern editions of Galen's works, often those in the *CMG* series. For bibliographical details of the Galen editions cited, see 'Bibliography' at the end of the volume under the editor's name. For the full reference for *Scripta Minora*, *Corpus Medicorum Graecorum*, see below.

The abbreviations for other ancient authors and works are normally those used by H. G. Liddell, R. Scott, and H. S. Jones, 1940. *A Greek–English Lexicon*, 9th edition, Oxford, or P. Glare (ed.), 1982. *Oxford Latin Dictionary*. Oxford. All quotations in Greek, Latin and other foreign languages are translated. All secondary works cited by author and date are included in the 'Bibliography' at the end of the book. Citations of authors other than Galen sometimes refer to commonly used modern editions of

the relevant works (e.g. 'Simplicius *Phys.* 708.27–31 Diels); those editions are *not* included in the 'References'.

Commonly used abbreviations in this book, which do not appear in this form in Liddell, Scott and Jones, or the *Oxford Latin Dictionary*, are as follows:

<i>CMG</i>	<i>Corpus Medicorum Graecorum</i> : multi-volume series of editions of medical texts, normally with translation and commentary, published in Berlin by Akademie Verlag.
<i>SM</i>	I. Marquardt, I. Müller, G. Helmreich (eds.), <i>Claudii Galeni Pergameni Scripta Minora</i> , 3 vols. Leipzig: Teubner, 1884–93, reprint Amsterdam: Hakkert, 1967.
<i>SVF</i>	H. von Arnim (ed.), <i>Stoicorum Veterum Fragmenta</i> , 4 vols. Leipzig: Teubner, 1903–5 (vol. 4, indices 1924), repr. Munich: Sauer, 2004.

Works of Galen discussed in this volume. First (a) extant (surviving) works are listed by Latin abbreviations and titles, followed by English titles. Then (b) works are listed by English titles, followed by Latin title and abbreviations where applicable. List (b) is also used in the Galen section of the Index, but without Latin titles.

(A)

- AA. De anatomicis administrationibus. On Anatomical Procedures*
Adv. Jul. Adversus Julianum. Against Julian
Adv. Lyc. Adversus Lycum. Against Lycus
Aff.Dig. De proprium animi cuiuslibet affectuum dignotione et curatione. The Passions of the Soul
Alim. Fac. De alimentorum facultatibus. On the Properties of Foodstuffs
Ars Med. Ars medica. Art of Medicine
Art.Sang. An in arteriis sanguis contineatur. On whether Blood is Naturally Contained in the Arteries.
CAM. De constitutione artis medicae. On the Composition of the Art of Medicine.
Caus. Puls. De causis pulsuum. Causes of Pulses
Comp.Med.Gen. De compositione medicamentorum per genera. On the Composition of Drugs according to Kind
Cons. De consuetudinibus. On Habits
Cris. De crisibus. On Crises

- Cur.Rat.Ven.Sect. De curandi ratione per venae sectionem. On Treatment by Bloodletting*
- Di.Dec. De diebus decretoriis. On Critical Days*
- Diff. Feb. De febrium differentiis. Differences of Fevers*
- Diff. Puls. De differentiis pulsuum. Differences of Pulses*
- Diff. Resp. De difficultate respirationis. Difficulties in Breathing*
- Dig.Puls. De dignoscendis pulsibus. Diagnosis by Pulses*
- Foet.Form. De foetuum formatione. On the Formation of the Foetus*
- Gloss. Glossarium / Linguarum seu dictionum exoletarum Hippocratis explicatio. Glossary of Hippocratic terms*
- Hipp.Aph. In Hippocratis Aphorismi. On Hippocrates' 'Aphorisms'*
- Hipp.Art. In Hippocratis De articulis. On Hippocrates' 'On Joints'*
- Hipp.Elem. De elementis ex Hippocrate. On the Elements according to Hippocrates*
- Hipp.Epid. In Hippocratis Epidemiarum. On Hippocrates' 'Epidemics'*
- Hipp.Fract. In Hippocratis De fracturis. On Hippocrates' 'Fractures'*
- Hipp.Hum. In Hippocratis De humoribus. On Hippocrates' 'On Humours'*
- Hipp.Off.Med. In Hippocratis De officina medici. On Hippocrates' 'Surgery'*
- Hipp.Prog. In Hippocratis Prognostica. On Hippocrates' 'Prognostic'*
- Hipp.Prorrh. In Hippocratis De praedictionibus. On Hippocrates' 'Pro-rhetics'*
- Hipp.Vict. In Hippocratis De alimento. On Hippocrates' 'On Nutriment'*
- HNH In Hippocratis De natura hominis. On Hippocrates' 'Nature of Man'*
- HVA In Hippocratis De acutorum victu. On Hippocrates' 'Regimen in Acute Diseases'*
- Ind. De indolentia. On the avoidance of grief.*
- Inst.Log. Institutio logica. Introduction to Logic*
- Lib.Prop. De libris propriis. On My Own Books*
- Loc.Aff. De locis affectis. On Affected Parts*
- MM De methodo medendi. On the Therapeutic Method*
- MMG. Ad Glauconem de methodo medendi. To Glauco on the Method of Healing*
- Med.Nom. De nominibus medicis. On Medical Names*
- Mor. De moribus. On Moral Character*
- Nat.Fac. De naturalibus facultatibus. On the Natural Faculties*
- Opt.Doct. De optima doctrina. On the Best Method of Teaching*
- Opt.Med. Quod optimus medicus sit quoque philosophus. The Best Doctor is also a Philosopher*
- Ord.Lib.Prop. De ordine librorum propriorum. On the Order of My Own Books*

- Parv.Pil. De parvae pilae exercitio. Exercise with the Small Ball*
Pecc.Dig. De animi cuiuslibet peccatorum dignotione et curatione. On the
Diagnosis and Cure of the Errors of the Soul
PHP. De placitis Hippocratis et Platonis. On the Doctrines of Hippocrates and
Plato
Praen. De praenotione ad Epiginem. On Prognosis
Praes.Puls. De praesagitione ex pulsibus. Prognosis by pulses
Prop.Plac. De propriis placitis. On His Own Opinions
Protr. Adhortatio ad artes addiscendas. Exhortation to the Arts
QAM(=QAF) Quod animi mores/facultates corporis temperamenta sequuntur
The Faculties of the Soul follow the Mixtures of the Body / The Soul's
Dependence on the Body
SI. De sectis ad eos qui introducuntur. On Sects for Beginners
Sem. De semine. On Semen
SMT. De simplicium medicamentorum temperamentis ac facultatibus. On the
Powers of Simple Drugs
Temp. De temperamentis. On Mixtures
Thras. Thrasybulus sive utrum medicinae sit an gymnasticae hygiene. Thrasy-
bulus
UP. De usu partium. On the Function of the Parts

(B)

- Against Julian. Adversus Julianum (Adv.Jul.)*
Against Lycus. Adversus Lycum (Adv.Lyc.)
Art of Medicine. Ars medica (Ars Med.)
Causes of Pulses. De causis pulsuum (Caus.Puls.)
Comments on the First and Second Books of Chrysippus' 'Syllogistic'
Diagnosis by Pulses. De dignoscendis pulsibus (Dig.Puls.)
Differences of Fevers. De febrium differentiis (Diff.Feb.)
Differences of Pulses. De differentiis pulsuum (Diff. Puls.)
Difficulties in Breathing. De difficultate respirationis (Diff.Resp.)
Exercise with the Small Ball. De parvae pilae exercitio (Parv.Pil.)
Exhortation to the Arts. Adhortatio ad artes addiscendas (Protr.)
Glossary of Hippocratic Terms. Glossarium / Linguarum seu dictionum exole-
tarum Hippocratis explicatio (Gloss.)
In Defence of Epictetus against Favorinus
Introduction to Logic. Institutio logica (Inst.Log.)
It is Useful for Schoolchildren to Read Old Comedy

- On Affected Parts. De locis affectis (Loc.Aff.)*
On Anatomical Procedures. De anatomicis administrationibus (AA)
On Aristotle's 'Categories'
On Aristotle's 'On Interpretation'
On Aristotle's 'Organon'
On Aristotle's 'Posterior Analytics'
On Aristotle's 'Prior Analytics'
On Crises. De crisisibus (Cris.)
On Critical days. De diebus decretoriis (Di.Dec.)
On Demonstration. De demonstratione
On Eudemus' 'On speech'
On Examinations
On Habits. De consuetudinibus (Cons.)
*On Hippocrates' 'Airs, Waters, Places'. In Hippocratis De aere aquis locis
commentarii*
On Hippocrates' 'Anatomy'
On Hippocrates' 'Aphorisms'. In Hippocratis Aphorismi (Hipp.Aph.)
On Hippocrates' 'Epidemics'. In Hippocratis Epidemiarum (Hipp.Epid.)
On Hippocrates' 'Fractures'. In Hippocratis De fracturis (Hipp.Fract.)
*On Hippocrates' 'Nature of Man'. In Hippocratis De natura hominis
(HNH)*
On Hippocrates' 'On Affections'
On Hippocrates' 'On Diseases'
On Hippocrates' 'On Generation'
*On Hippocrates' 'On Humours'. In Hippocratis De humoribus (Hipp.
Hum.)*
On Hippocrates' 'On Joints'. In Hippocratis De articulis (Hipp.Art.)
On Hippocrates' 'On Nutriment'. In Hippocratis De alimento (Hipp.Vict.)
On Hippocrates' 'On the Diseases of Women'
On Hippocrates' 'On the Eight-month Child'
On Hippocrates' 'On the Nature of a Child'
On Hippocrates' 'Prognostic'. In Hippocratis Prognostica (Hipp.Prog.)
*On Hippocrates' 'Porrhetics'. In Hippocratis De praedictionibus
(Hipp.Porrh.)*
*On Hippocrates' 'Regimen in Acute Diseases'. In Hippocratis De acutorum
victu (HVA)*
On Hippocrates' 'Surgery'. In Hippocratis De officina medici (Hipp.Off.Med.)
On his Own Opinions. De propriis placitis (Prop.Plac.)
On Medical Names. De nominibus medicis (Med.Nom.)

- On Mixtures. De temperamentis (Temp.)*
On Moral Character. De moribus (Mor.)
On My Own Books. De libris propriis (Lib.Prop.)
On Prognosis. De praenotione ad Epiginem (Praen.)
On Sects for Beginners. De sectis ad eos qui introducuntur (SI.)
On Semen. De semine (Sem.)
On the Avoidance of Grief. De indolentia (Ind.)
On the Best Method of Teaching. De optima doctrina (Opt.Doct.)
On the Best Teaching against Favorinus
On the Composition of Drugs according to Kind. De compositione medicamentorum per genera (Comp.Med.Gen.)
On the Composition of the Art of Medicine. De constitutione artis medicae (CAM)
On the Diagnosis and Cure of the Errors of the Soul. De animi cuiuslibet peccatorum dignotione et curatione (Pecc.Dig.)
On the Dissection of Living Animals
On the Doctrines of Hippocrates and Plato. De placitis Hippocratis et Platonis (PHP)
On the Elements according to Hippocrates. De elementis ex Hippocrate (Hipp.Elem.)
On the Formation of the Foetus. De foetuum formatione (Foet.Form.)
On the Function of the Parts. De usu partium (UP)
On the Hippocratic Oath. In Hippocratis iusiurandum commentarius.
On the Natural Faculties. De naturalibus facultatibus (Nat.Fac.)
On the Order of My Own Books. De ordine librorum priorum (Ord.Lib.Prop.)
On the Powers of Simple Drugs. De simplicium medicamentorum temperamentis ac facultatibus (SMT)
On the Properties of Foodstuffs. De alimentorum facultatibus (Alim.Fac.)
On the Therapeutic Method. De methodo medendi (MM)
On Theophrastus' 'On Affirmation and Negation'
On Treatment by Bloodletting. De curandi ratione per venae sectionem (Cur.Rat.Ven.Sect.)
On Whether Blood is Naturally Contained in the Arteries. An in arteriis sanguis contineatur (Art.Sang.)
On Wounds in the Head
Prognosis by Pulses. De praesagitione ex pulsibus (Praes.Puls.)
The Best Doctor is also a Philosopher. Quod optimus medicus sit quoque philosophus (Opt.Med.)

The Faculties of the Soul Follow the Mixtures of the Body /The Soul's Dependence on the Body. Quod animi mores / facultates corporis temperamenta sequuntur (QAM=QAF)

The Passions of the Soul. De proprium animi cuiuslibet affectuum dignotione et curatione (Aff.Dig.)

Thrasybulus. Thrasybulus sive utrum medicinae sit an gymnasticae hygiene (Thras.)

To Glauco on the Method of Healing. Ad Glauconem de methodo medendi (MMG)

Preface

This volume of new essays is based on a conference with the same title held at the University of Exeter in 2005. All those speaking on that occasion have written chapters in this volume, along with Riccardo Chiaradonna whose chapter has been specially prepared for the volume. The aim of this volume, like the conference on which it is based, is to contribute to the upsurge of new research on Galen by focusing on a topic that bridges the interests of specialists in ancient medical history and Classicists and philosophers more generally. The conference also represents the convergence of two current focuses of research in the Department of Classics and Ancient History at Exeter, on ancient medicine especially Galen and on Hellenistic and Imperial Greek culture more generally.

We would like to acknowledge the support for the funding of the conference provided by the British Academy, the Classical Association, the Society for the Promotion of Hellenic Studies and the University of Exeter. We wish to thank most warmly all the contributors to the volume for their illuminating essays, and also the other participants at the conference whose comments helped to inform the final version of the papers. We are grateful to Michael Sharp, Classics Editor for Cambridge University Press, and the general editors of the series in which the volume appears, for their support and guidance. Special thanks are due to Karen Gill for her patient and careful work in preparing the book for publication, and to Kerensa Pearson for helping with this work.

CHRISTOPHER GILL
TIM WHITMARSH
JOHN WILKINS

Introduction

Christopher Gill, Tim Whitmarsh and John Wilkins

GALEN AS AN INTELLECTUAL IN HIS CULTURAL CONTEXT

The recent discovery of Galen's treatise *On the Avoidance of Grief* in a monastery in Thessaloniki provides a vivid picture of his intellectual life in Rome. Writing in the familiar ancient genre of the consolation, in the manner of Cicero, Seneca or Plutarch, Galen responds to the letters from an unnamed friend who admired his fortitude. Galen had managed to refrain from grief in the face of disaster, first an epidemic of plague among his slaves, and then the destruction of his books, drug supplies and medical instruments in the terrible fire that swept through the Temple of Peace and nearby buildings close to the Palatine hill in Rome in AD 192. With much topographical detail, Galen gives a clear description of the Temple of Peace district and the libraries and storehouses built around the Via Sacra, and his attempts to move valuable items he had at home into store for safe-keeping while he went on a trip to Campania. Disastrously, fire struck and he lost more cinnamon than the merchants could replace, a number of medical instruments, in particular wax moulds for special instruments he was about to commission from the metalworkers, and many books. The books included classic works by Theophrastus, Aristotle and Chrysippus, many of them annotated by Galen, with errors in punctuation and other anomalies removed. There were also copies of rare books, and a number of his own books that he was in the process of having copied for friends in Campania who wanted to have his works available in public collections. These details show that Galen had a collection of medicines second to none, that he had contributed to the design of medical instruments and that he had the ability to edit and copy manuscripts, both of famous earlier authors and of his own works.¹

Galen's role as an intellectual and scholar, which emerges vividly in the recently discovered treatise, is in one way well known and documented

¹ See Boudon-Millot 2007b.

and in another only just emerging properly into view. This reflects the remarkable story of the reception of Galen, which in a way parallels that of the accumulation, loss and recovery of his books as described in *On the Avoidance of Grief*. From his death until the rise of modern medicine in early modern Europe, his works constituted an authoritative source of medical knowledge for European and Arabic culture. This outcome exceeded even his lofty ambitions and ensured the survival of an enormous body of writings. Then, his stock fell sharply as he became irrelevant to the emerging scientific approach to medicine while not forming part of the canon of Greek and Roman writers regarded as central to study of 'the Classics'. The neglect into which he fell is shown by the difficulty even of finding decent texts of his works. The standard edition of his works, that of Kühn, though published in the early nineteenth century, actually incorporates a good deal of material assembled centuries earlier, and is in any case not complete.² Editorial work since the late nineteenth century has gone some way towards improving this situation, especially through editions prepared for the *Corpus Medicorum Graecorum* and, more recently, the Budé collection.³ Even so, many of his surviving treatises lack modern editions, let alone detailed commentaries. What is more, whereas Jowett's authoritative translation of Plato and Ross's of Aristotle made these authors available for a wide range of nineteenth- and twentieth-century readers, translation of Galen's works into English, or indeed any modern language, has been very piecemeal and incomplete, though there are recent plans to improve the situation.⁴

In spite of substantial obstacles to knowledge of his writings, modern scholars have become increasingly aware of the huge potential of the Galenic corpus for the study of many aspects of Greek and Roman life, including philosophy and thought, social and material culture, as well as, of course, medical thought and practice. One of the results of this awareness has been the production of volumes of essays exploring aspects of his diverse legacy and seeking to make this body of evidence more available to readers outside the rather small circle of experts in ancient medicine. Of special note is a volume of the *Aufstieg und Niedergang der römischen Welt*, largely

² See Nutton 2002: 1–7 on the limits of Kühn.

³ The first Budé volume of a planned series on Galen (Boudon-Millot 2007a) contains an extensive general introduction on Galen's life and on the transmission of his writings from late antiquity to the present day.

⁴ A series of translations into English with commentary is planned for publication by Cambridge University Press, under the general direction of Philip van der Eijk.

devoted to key aspects of Galen's work and containing a bibliography of twentieth-century scholarship on Galen.⁵ There have also been collections on, for instance, Galen's works on healing or pharmacology,⁶ on philosophy and psychology,⁷ and his reception of the Hellenistic intellectual legacy.⁸ An important recent book is the *Cambridge Companion to Galen*,⁹ reviewing most of the salient areas to which Galen contributed. The present volume focuses on Galen's role as intellectual and scholar, located within his cultural context; the specific contribution of this volume to the current upsurge of scholarship on Galen is outlined shortly. First, we offer a broad review of Galen as intellectual and scholar to set the scene for the following outline of chapters and for the volume as a whole.

Even before the discovery of the manuscript of *On the Avoidance of Grief*, much was already known about Galen through his vast output and his habit of presenting himself at the forefront of the narrative in many of his treatises, especially in his bibliographical works on his own books and the order of those books. As is becoming ever clearer, Galen is one of the major authors of Classical antiquity, prolific in works on scholarship and the history of thought, on logic and ethics as much as on technical medical subjects such as anatomy, physiology and pharmacology. Above all, he constructed a systematic and coherent medical synthesis, unparalleled in antiquity in its scope, learning, intellectual aspirations and codification. Galen's medical synthesis was so successfully conceived that it seems to have outshone its rivals in antiquity and certainly survived for more than one thousand five hundred years. It persisted not only in Greek, but also in Syriac, Arabic, Hebrew and Latin translations, which transmitted Galen's knowledge widely throughout the Mediterranean and beyond into Europe and the near East. Galen assembled his system through argument with other medical traditions – in particular the Methodists and Empiricists – and did so with such success that he is the main source not only for his own medical approach, but also in many cases what we know of his opponents as well.¹⁰

⁵ Haase and Temporini 1994, including Kollesch and Nickel 1994. See also Nutton 1981 and López Férez 1991b.

⁶ Kudlien and Durling 1991; Debru 1997.

⁷ Manuli and Vegetti 1988; Barnes and Jouanna 2003.

⁸ Kollesch and Nickel 1993. ⁹ Hankinson 2008b.

¹⁰ Galen generally aligns himself with the Rationalist or Dogmatist approach to medicine, rather than the less theory-based Empiricist and Methodist approaches. However, he also presents himself as selecting the best aspects of Rationalist and Empiricist approaches, though he is consistently critical of Methodism. See further Frede 1985: xx–xxxiv, 1987a: 243–78; Hankinson 1991b: xxvi–xxxiii; on Methodism, see Tecusan 2004: 7–21.

Galen went to extraordinary lengths to prevail over his medical and intellectual opposition, partly through logical demonstration used to organise data that he had gathered by his own researches and medical practice, and partly through sheer weight of scholarship. Validation of his claims was frequently made by reference to the great masters of the past, in particular Plato, Aristotle and Hippocrates, and by his interpretation of what he thought they really meant. Galen was able to achieve this intellectual success partly through his extraordinary education, partly through the intellectual climate of the Antonine and Severan period in which he lived and partly through powers of self-promotion that were second to none. Galen's father was an architect in Pergamum with a particularly enquiring mind. He had his son taught rhetoric, mathematics and the four leading philosophical approaches (Platonism, Aristotelianism, Stoicism and Epicureanism), before suggesting that his son train in medicine. Galen was sent off to Smyrna and Egypt for further medical training, and served as physician to the Pergamene gladiatorial school before leaving for Rome in 162 AD.¹¹ This broad training in thought and medicine provided an excellent foundation for a man of untiring energy, curiosity and combative skills, about which we are well informed thanks to the fact that he placed himself at the centre of many of his discourses. It was crucial too that, in fact as well as in his writings, he should place himself at Rome, the centre of the imperial world, and also the centre of the contemporary intellectual world. It is no accident that Galen's extraordinary synthesis of medical knowledge was composed in a world that produced handbooks, encyclopedias and scholarly resources based on vast numbers of public and private libraries.¹² In *On the Avoidance of Grief*, *On My Own Books* and *On the Order of My Own Books*, we can see Galen organising and shaping his intellectual world, writing for varied audiences as well as for himself – general readers and patients, medical beginners, specialists and the powerful men of the day.

By his own account, Galen made a major impact when he first arrived in Rome. The imperial city, like other cities, was afflicted by

the materialism of the rich and powerful . . . who honour . . . pleasure above virtue, consider of no account those who possess some finer knowledge and can impart it to others. . . . But the respect they give to men of learning corresponds only to their practical need of them. They do not see the particular beauty of each study

¹¹ See further Nutton 1973, 2004; Boudon-Millet 2007a.

¹² On the encyclopedic and library culture of the first and second centuries AD in Rome, see König and Whitmarsh 2007b.

and they cannot stand intellectuals. Geometry and arithmetic they need only in calculating expenses and in improving their mansions, astronomy and divination only in forecasting whose money they are going to inherit.¹³

Despite this allegedly adverse intellectual climate, Galen had powerful connections through his father's network and was able to diagnose malaria, love-sickness and other disorders among members of the philosophical and senatorial elite, to the consternation of rival physicians. From there, Galen became physician to the Antonine emperors and, like Seneca before him, was able to reflect philosophically on the failings of the Roman social world while making a very successful living within it.¹⁴

To say this is not to detract from Galen's intellectual achievement but to bring out his role as a successful member of the intellectual elite, well able to compete and prevail by intellectual means and to present an anatomical demonstration or rhetorical display that could match anything his rivals might throw at him. Galen put his excellence down to study, experience, experiment and observation, and a proper use of 'demonstration' in argument, that is, a system of proof that evaluates one phenomenon that a patient might present against another.¹⁵ These medical virtues, which Galen trumpets on many occasions, are supported by intellectual procedures drawn from philosophy and scholarship. He is an avid reader and student of Hippocrates. He matches Hippocrates against later doctors from the Hellenistic period, and then places that evaluation (based on his method of logical demonstration) against his own experiment and observation. The results might be presented in a treatise, such as *On the Natural Faculties*, which takes to task the Hellenistic doctor Erasistratus for his faulty work on the liver.¹⁶ It might be presented in a polemic against rival schools of thought. It might be presented in a commentary on a Hippocratic text – such commentaries make up about a fifth of his vast output. Or it might appear in a general work on a topic normally handled only by philosophers or on medicine considered as one of the arts.

Galen is always the doctor seeking to outshine his rivals; but he is also the master of scholarship, philology and lexicography, as likely to comment on the meaning of a word or its spelling as on its technical application. He aims to integrate philosophy and philology systematically within medical thought. This can be seen in *On the Function of the Parts*, a massive treatise

¹³ *On Prognosis* 1.72–74.2 Nutton, trans. Nutton XIV.604–5 K.

¹⁴ On Seneca's complex (or ambivalent) role as both politician and philosopher, the classic study is Griffin 1976 (1992).

¹⁵ See further Barnes 1991; Hankinson 1991b, 1998.

¹⁶ *Nat. Fac.* 1.16 (II.60–2 K) and, esp., 2.3–9 (II.80–142K).

of seventeen books that presents Galen's anatomical knowledge within a teleological system based on Aristotle. It can be seen in *On the Doctrines of Hippocrates and Plato*, in which his account of human physiology and psychology is grounded in a modified version of what the Hippocratic doctors and Plato had written and it can be seen in *On the Properties of Foodstuffs*, a dietary catalogue in which the identification of a plant by its name is often as important for Galen as its botanical properties.

Galenic medical knowledge is thus a highly elaborated version of what is found in earlier medical authors. The Hippocratic doctors had written in a varied, often polemical, style as they broke new ground in developing a scientific approach to medicine based on the assumption that humanity should be seen as a form of animal life placed within the natural order. Their science is firmly grounded on Presocratic philosophy and on the new systems of knowledge developed by the Sophists. Writing some five centuries later, Galen adopted and clarified Hippocratic methods. He did so very much in the intellectual style of his own period. He shares many of the characteristics of contemporary thinkers who were born in the Greek part of the Roman Empire and who established their position in the interface between the rich literary and philosophical heritage of the Greek cities and the wealthy and powerful Roman imperial elite who adopted this legacy. In this environment, a high valuation of the past, of authors such as Homer and Plato, is standard. So too is an empire-wide frame of reference with Rome at the centre. Galen, richly educated and widely travelled, easily adopted an international profile – for all his claims that he preferred to spend his time in his home city of Pergamum.¹⁷

Galen shares much with such authors as Plutarch, Favorinus, Lucian and Philostratus. Like them, he was a sophisticated master of prose, poetry and philosophy, knowledge of which he used to inform and enlarge the relatively restricted scope of the medical or technical treatise. The very vastness of his output is a further feature that, in contemporary terms, gave him authority, as, in different ways, did the writings of Plutarch and Athenaeus. Galen also provided formidable systems of reference that were useful to him as well as to his pupils and competitors. His intellectual and scholarly breadth is best seen in his bibliographical works, *On My Own Books* and *On the Order of My Own Books*. These writings distinguish between different categories of treatise; they reflect on the educational purposes of his writings; they present Galen's output as a minor publishing industry in itself; and in general they testify to his productivity in multiple

¹⁷ Plutarch makes comparable claims at *Demosthenes* 1.1–2. On the development of Hellenism as a pan-Mediterranean lingua franca see e.g. Swain 1996: 17–42.

spheres, extending even to the vocabulary of the Greek comic poets. He explains how he has organised his bibliography, with vivid anecdotes on the availability of his works in the booksellers of Rome and the presence of unauthorised, pirate copies among the authentic volumes. When his library was burnt down he simply set about writing the treatises again. This systematising tendency extends to his view of his own corpus as a medium of instruction. In Galen's eleven-book treatise on simple medicines, the reader is told to read this work as part of a sequence that begins with *On the Elements according to Hippocrates* and progresses through *On the Natural Faculties* and *On Mixtures*. Having mastered simple medicines, the reader can proceed to the treatises that classify compound medicines according to location or genre, and thence to nine books on milder forms of treatment, namely diet and 'regime' or lifestyle.

Galen supports his medical advice with frequent discussions of authorities with which he agrees or disagrees. He does so in his polemics against the Methodists and Empiricists, or when he corrects the credulous lexicographer Pamphilus of Alexandria or comments on such authorities as Diocles of Carystus, Theophrastus or Dioscorides. In all these cases, Galen displays a state-of-the-art mastery of the relevant topic (including, for instance, knowledge of manuscript variants). He uses in this context many of the scholarly techniques that he has developed in his extensive commentaries on Hippocratic texts. For instance, he explains, and elaborates, the rather aphoristic and laconic Hippocratic writings, and tells us what Hippocrates (or a writer using his name) really meant. As a commentator, Galen uses techniques similar to contemporary commentators on Homer or Aristotle. In Galen's case, however, the point is to get the Hippocratic term or method clearly understood so that everyone grasps what is said and can give it practical application. This work as a commentator goes hand in hand with his systematisation of medicine. Here too he fills in gaps (in Hippocratic pharmacology, for example) and casts his material in different forms according to need and ease of reference, either for the beginner, the advanced practitioner or the layman. When we put together Galen's elaborations of Hippocratic and Platonic thought, his own discoveries in the light of Hellenistic medicine and his rhetorical and anatomical skills, his sheer prowess is dazzling.

THE FOCUS AND THEMES OF THIS VOLUME

The aim of this volume is to study Galen as an intellectual, exploring both his response to his context and inheritance, and his own remarkable medical-theoretical project. As outlined earlier, some aspects of this

topic have been treated in other such volumes, notably his response to his Hellenistic inheritance and his engagement with philosophy.¹⁸ However, the topic is a vast and complex one, and one on which the general advance of scholarship on Galen enables a progressively deeper understanding of his thought.¹⁹ The present collection is innovative in its main theme (that of Galen and the world of knowledge), and in the breadth with which this theme is conceived, embracing cultural as well as medical and philosophical dimensions in a single perspective. The volume offers searching analyses and fresh insights on this theme, outlined shortly, which go beyond restatements of what is generally known or supposed about Galen's intellectual approaches. In particular, the volume shows how Galen both does and does not fit within his contemporary intellectual and literary culture – he is, in different ways, both typical and atypical of his thought-world. This paradox is brought out in different ways by all the contributors to this volume.

Our topic, then, is Galen as an intellectual, more precisely, his knowledge or, as we have put it, his *world* of knowledge. What does this phrase signify and how does the volume convey this idea? There are two main, interrelated, connotations. One is the world of knowledge that Galen inherits and responds to, and which forms a central part of the complex, sophisticated culture of Greek (or Hellenised) culture under the Roman Empire in the second century AD. A second connotation is the world of knowledge that Galen aims to create by his ambitious project of knowledge-based medicine and his many-sided intellectual activities and treatises. As indicated earlier, a distinctive feature of Galen's approach to medicine, in sharp contrast to some competing ancient views, is his conviction that the effective practice of medicine depends on possessing and applying a wide range of types of knowledge. The relevant types of knowledge, to which Galen aims to make new contributions and not merely to acquire and transmit, include anatomy, physiology, pharmacology and dietetics. However Galen also, exceptionally, regards medical knowledge as dependent on the application of logic and on an advanced understanding of the principles of methodology and classification. In both these senses, the idea of a *world* of knowledge suggests an aspiration – on Galen's part, and on his culture's – to inclusiveness, systematicity and universality. A further implication is that mastery of the world of knowledge, in its totality and interconnections, provides

¹⁸ Kollesch and Nickel 1993; Barnes and Jouanna 2003.

¹⁹ The discovery of the new treatise *On the Avoidance of Grief* (Boudon-Millot 2007b), of which Nutton takes account in his chapter, is just one, very clear, example of how the rapid advance of current scholarship on Galen is enabling a better understanding of his role as an intellectual.

the key to knowledge – and mastery – of the world, as mapped or codified in this era.

The various contributions to this volume bring out in different ways both aspects of this theme and the interrelationship, and sometimes tension, between them. The simultaneous presence of both aspects leads to the paradox noted earlier: Galen is both typical and atypical of his culture; he both fits and does not fit in the world of knowledge of second-century Hellenised Roman civilisation. The interplay between these themes forms the basis for the structure and organisation of the volume. Although all the chapters, in different ways, bring out both sides of the story, some focus more on Galen's response to the contemporary intellectual world (and on ways in which he fits within this world), and others more on Galen's own construction of a distinctive synthesising world of knowledge (and on his correlated atypicality within his culture). We have placed the chapters stressing the first theme earlier in the volume and those underlining the second theme later in the volume. Thus, the collection as a whole progressively reveals Galen's exceptional role as an intellectual, while also showing how this is rooted in profound involvement with the Graeco-Roman intellectual milieu of his day.

Thus, the first four chapters accentuate different ways in which Galen assimilates his intellectual culture and is, to some degree, typical of it. The culture is a learned, sophisticated one, strongly informed by the role of rhetoric as a mode of public performance and a style of writing – in short, the culture associated with what some modern scholars call 'the Second Sophistic'.²⁰ Galen's life and career also reflect the relative stability and prosperity of Graeco-Roman socio-economic and political life in the second century AD. At the same time, these chapters also indicate the atypicality of Galen, which is stressed more fully later in the volume, especially his vast intellectual range and synthesising ambition, exceptional even in a culture that was itself fertile in technical and philosophical syntheses.²¹ These four chapters focus on Galen's library and range of reading (Nutton), on his cataloguing of knowledge, as displayed by his use of prefaces (König), on the 'imperial' scope of his learning and system of knowledge (Flemming) and on his showmanship and publicised mastery of technical medical skill (Gleason).

For someone in Galen's position, the personal library played a crucial role as the foundation of professional and intellectual knowledge, and as

²⁰ On the problems associated with this term see Whitmarsh 2005: 4–10.

²¹ Surveyed in König and Whitmarsh 2007b.

an ever-growing collection of notes and writings. What did Galen's library contain? This question – fundamental to forming a view of the basic building-blocks of Galen's access to the world of knowledge in his day – is probed by Vivian Nutton. Providing the answer, however, is not easy. We know that most of his personal library was destroyed by fire in AD 192, and we can infer that his collection was both very extensive and diverse in its contents. However, to establish exactly what it contained we are reliant on the evidence of Galen's surviving writings. Nutton focuses on Galen's citation of Greek literature, which provides a picture we can correlate with Galen's response to Hippocratic medicine and philosophy. By contrast with his comments on medical writings (which give full coverage of Hellenistic and Imperial writings), Galen's literary allusions and quotations are almost wholly drawn from the Classical period. In fact, as becomes clear from Nutton's investigation, in his selection of prose and verse authors, and in his stylistic judgements, Galen emerges as a typical educated Greek of the first or second century AD, not dissimilar in this respect from Plutarch or Athenaeus, for instance.

Jason König also locates Galen in his contemporary literary culture, but as author rather than reader. He places Galen's authorship within the genre of compilatory or encyclopedic writing that is so marked a feature of the first three centuries AD. He examines the way that Galen presents his objectives in the preface of *On the Order of My Own Books* and *On the Therapeutic Method*, compared with prefaces of contemporary technical works, namely the *Encheiridion* (Introduction to Music) of Nicomachus Gerasenus and the *Orator's Education* by Quintilian. In these other works, the motif of writing at the insistence of friends is combined with an attitude of reluctance to write at all and with modesty about the quality or completeness of the book produced. Although these motifs also occur in Galen's writing, they are combined with other striking new themes. These include denunciation of the widespread lack of interest in the truth and poor understanding of medical and philosophical writing. Although presented as initially deterring Galen from writing at all, these factors also serve as motives for composition, to improve public attitudes – and to set the record straight about Galen's own authorship, since some of his writings were already circulating without his consent. So, by close correlation of Galen's practice with other writers of his age, König shows how Galen both does and does not fit within the writing conventions of his day, and shows what is distinctive – as well as ingenious and paradoxical – in Galen's allegedly reluctant authorship.

Rebecca Flemming brings out another respect in which Galen's practice is both typical and atypical, by examining the role of the (linked) ideas of providential nature and the divine craftsman (or 'demiurge') in Galen's thought, especially their place in Galen's project of creating a unified system of knowledge. These ideas are integral both to Galen's picture of the natural world and his methodology of natural enquiry. Indeed, in the latter respect, Galen's organising demiurge is very close to Galen himself, viewed as the organiser of a system of knowledge. Flemming also presses a question that Galen rather sidesteps. Why is the idea of providential nature so important for Galen's medical account of the world, given that in fact – despite Galen's claims to the contrary – it is not really a Hippocratic theme? In part, Galen is taking a thesis that was already well known in philosophical contexts and is applying it in the medical sphere, where it was much less often deployed. Also, the idea of providential nature was common ground to Plato, Aristotle and the Stoics, so adopting this idea enables him to recruit some powerful philosophical allies (with prominent supporters in Rome in Galen's time). In addition, for Galen and for others in his culture, this idea is linked with a validation of the status quo, above all, the political status quo, in which the Emperor played a quasi-demiurgic role. Galen thus draws on ideas that were well entrenched in his culture but uses them in a way that is highly unusual, in the service of his exceptional fusion of medicine and philosophy.

Maud Gleason explores a different aspect of Galen's medical procedure, his public demonstrations of anatomy by animal vivisection, especially in his first visit to Rome (AD 162–6). Galen's own reports stress the function of these displays as a means of confirming anatomical facts and settling disputed points, especially the location of the ruling part of the psyche. However, Gleason analyses these exhibitions as social phenomena, drawing out their implied meaning for Galen himself and his audience. She underlines, for instance, the agonistic and competitive dimensions, which involve a kind of coercion, as Galen 'compels' his opponents to take part in the contest or to assent to Galen's view. In this respect, as in some others, Galen participates in the performance or 'epideictic' culture of his age that we normally associate rather with the rhetorical practice of the Second Sophistic. Gleason also suggests that these vivisection displays carry connotations of other contemporary public events, including criminal interrogations involving torture, wonder-working competitions and animal slaughter in the amphitheatre. Although these exhibitions display human power over animals, they also, more disturbingly, highlight the

kinship between humans and animals. They confirm the privileged status of the body of the observing Roman citizens, while underlining the fragility and vulnerability of this status. Gleason thus provides a different type of context for Galen's construction of knowledge from the other contributions to the volume, stressing not just explicit links with his intellectual culture but also implicit and probably unrecognised points of contact with his social environment.

The next five chapters (those of Lloyd, von Staden, Manetti, Boudon-Millot and Jouanna) are all centred in different ways on Galen's exceptionally broad conception of medical knowledge. They are thus concerned with the 'world of knowledge' in the sense of the system of knowledge that Galen himself seeks to establish, rather than with the pre-existing world of knowledge of his culture. These chapters (like that of Hankinson later in the volume) show clearly Galen's concern to engage in a special kind of system-building. Galen aspires to be the doctor par excellence, the doctor and commentator par excellence, the doctor, commentator and linguistic stylist par excellence, and also to combine the roles of doctor and philosopher in a way that achieves distinction by uniqueness and innovation. In this respect, Galen stands out from his context rather than fitting within it. However, this project cannot be characterised effectively without taking account of Galen's own response to his intellectual culture. A very important part of that culture for Galen is constituted by earlier medical and philosophical thought, above all Hippocrates, with whom Galen has an intricate, and rather idiosyncratic, relationship. Galen is far from unique, in his own time, in defining his thought by reference to a much earlier, 'classic' thinker. But the way he uses Hippocrates (or his version of Hippocrates) to define and authorise his own position is none the less exceptional, as well as being central to his intellectual self-definition, as these chapters bring out.

G. E. R. Lloyd's starting-point is a series of differences between the medical case-studies in the Hippocratic *Epidemics* and in Galen's *Prognosis*. The two works diverge in the mode of exposition, the range of diagnostic signs described, the attention given to the views of other doctors and the success rate claimed. Especially striking is the contrast between the specific and detailed (day by day) Hippocratic reports and Galen's much more generalised and selective narrative. The divergence is the more arresting, given Galen's consistent presentation of Hippocrates as an authority and exemplar in all medical matters. How should this contrast be explained? The most obvious factor is the difference between the aims of the two works. Galen's *Prognosis* is a kind of apologia (or advertisement) for his medical

technique, whereas the *Epidemics* are designed as a set of records on which doctors could draw to inform their treatment. However, Lloyd argues, a deeper epistemological contrast may be at work. Although Galen, in his own commentary on the *Epidemics*, recognises the value of the inductive (data-based) approach to medical diagnosis found in the Hippocratic text, he himself adopts a more deductive method, which identifies in specific cases the presence of a universal pattern. Lloyd suggests that this epistemological contrast may be the decisive reason for the (otherwise puzzling) fact that Galen's case-studies are so notably *un-Hippocratic*.

Galen's commentaries on Hippocrates form a large part of his corpus, and one whose importance is increasingly recognised by scholars. Heinrich von Staden explores one suggestive strand in these commentaries, Galen's use of Hellenistic exegesis in constructing his own reading of Hippocrates. He begins by subdividing the twenty-three Hippocratic commentaries written by Galen (many of them lost) into those intended for 'private' or 'public' use (Galen's own distinction). He then highlights a salient difference between the two groups: although there are marked internal variations within each group, there are significantly more explicit references to Hellenistic exegesis in the 'public' than in the 'private' commentaries. Von Staden considers the possible reasons for this variation, including Galen's explicit goal, in the 'public' works, of establishing the most reliable reading of Hippocrates' text and of pinpointing the most 'ancient' copies of his works, which involves referring freely to Hellenistic work on these topics. He also highlights certain striking gaps in Galen's generally prolix commentary style, such as his silence on whether he consulted the Hellenistic commentators directly or via later intermediaries, and on the exact scope of the Hellenistic treatments of Hippocrates. Von Staden's detective work on this less well-known side of Galenic writing brings out at least two striking new insights. It shows what an important part is played by Hellenistic exegesis of Hippocrates in making up the 'world of knowledge' to which Galen responds and it illustrates the importance of Hellenistic commentary in helping to make up Galen's own 'world of knowledge' and in enabling his own self-presentation as a masterly commentator on Hippocrates – even though Galen draws a discreet veil over exactly how much he depends on these commentaries.

Daniela Manetti is also concerned with Galen's response to the Hippocratic corpus, especially in his commentaries. However, her focus is on Galen's views on Hippocratic style, and, more broadly, on the kind of stylistic usage appropriate for medical treatises. She asks what Galen meant by 'language usage' (*sunētheia*), more specifically, *good* language usage or

style, in medical works. Galen is sometimes seen as a straightforward exponent of technical writing and as unconcerned with contemporary debates about the rival merits of 'Attic' style (that of Athenian prose in the Classical period) and 'Asiatic' style (a more elaborated and rhetorical mode current in the Greek-speaking East of the Roman Empire). However, as Manetti brings out, Galen's position is more sophisticated than is usually supposed and reflects a deeper involvement with stylistic issues typical of the contemporary rhetorical culture than is usually recognised. Galen is well aware of the nuances of Attic vocabulary and uses this knowledge to gloss dialectal variants found in the Hippocratic treatises. However, he does not presuppose that Attic style is normative for medical writing, nor does he himself write in a systematically Attic idiom. Rather, he aims at a style that will strike his readers as standard educated Greek prose style, though informed by knowledge of Classical Attic. Relevant also are Galen's frequent (and positive) references to the language usage of Asia – which does not mean 'Asiatic style' in the sense of elaborate rhetoric, but rather what counts as standard usage in the Greek East. These references reflect Galen's view that the cities of the Greek East, including Galen's own Pergamon, were now the main standard bearers of Greek culture and linguistic tradition, rather than contemporary Athens, which had become a kind of museum.

The following two chapters illustrate in different ways Galen's project of expanding the scope of medicine to include aspects more closely associated with philosophy. Véronique Boudon-Millot examines the relationship between 'life' (*bios*) and 'method' (*methodos*) in Galen's idea of medical knowledge. She underlines the significance of the fact that, of the seven qualities presented as necessary for the search for truth in *On the Composition of the Art of Medicine*, the first five relate to a person's life, and only the sixth and seventh to method. What does 'life' mean in this context? There are three relevant strands: the individual life and its innate qualities, the way of life and the lifetime. As Boudon-Millot shows, in Galen's view, the 'life' in all three senses needs to be properly equipped and single-mindedly directed towards knowledge if truth is to be achieved. Several of the autobiographical reports that Galen gives of his own earlier education and lifestyle express this thesis. A similar line of thought underlies Galen's claim that the best doctor must also be the best type of person, both in qualities and mode of life. Galen here adopts a view that is much more commonly associated with philosophy – that the genuinely knowledgeable person must also be the best person in ethical character. Galen's application of this idea to medicine marks a non-standard conception of medical

knowledge and reflects his aspiration for medicine to merge with – or replace – philosophy in key respects.

Jacques Jouanna shows the same kind of ambitious conception of medical knowledge in connection with Galen's thinking on the education of the intellect. His main focus is on the treatise whose title and first sentence is *That the Faculties of the Soul Follow the Mixtures of the Body*.²² This title is usually cited in shortened form as *QAM* (*Quod Animi Mores*), based on an incorrect reading of this title in Kühn's standard edition²³ but the proper short form, Jouanna points out, should be *QAF* (*Quod Animi Facultates*). Galen's thesis applies not just to habits or *character* (*mores/lēthē*), which typically means the state of the non-rational part of the soul, but to all the *faculties* of the soul, including the rational one. Galen's thesis is thus a very strong one, which at least some contemporary thinkers (especially Platonic ones) would deny, though Galen claims support for the assertion in some Platonic texts, notably the *Timaeus*. If qualities of intellect depend on the bodily state, they can be improved by medical techniques, which are normally directed at the body. In particular, they can be improved by the management of 'regime' (*diaita*), that is, by food, drink and exercise. On this interpretation, the rather extreme position adopted by Galen in *QAF* reflects his ambitious redefinition of the role of medicine in relation to philosophy.

R. J. Hankinson also explores another aspect of Galen's wide-ranging intellectual project, his deployment of philosophical methods and concepts in the service of medical enquiry and practice. Hankinson examines the theory of knowledge implied in Galen's methodology. Galen is resolutely non-sceptical, and is confident that knowledge of the world is available if the right technique is applied. Hankinson asks if Galen's confidence in the possibility of attaining knowledge in this way is really justified. Galen's criteria of knowledge are reason and the evidence of the senses (taken together or separately). More broadly, Galen's theory depends on the assumption that logical or demonstrative method, appropriately deployed, will yield knowledge, for instance about the ultimate principles of reality, on which reliable medical treatment can be based. This procedure assumes that one can identify securely the 'essential nature' of the things examined and also the 'primary principles' (*archai*) of logical demonstration. However, as Hankinson shows, these assumptions are more questionable than Galen acknowledges. This point emerges with special force since Hankinson

²² The English title generally used in this volume is *The Soul's Dependence on the Body*, as in Singer 1997.

²³ Kühn gives *ēthē* rather than *dunameis*.

focuses on Galen's attempt to establish the primary elements of matter, rather than his proof that the ruling part of the psyche is located in the brain, which is often seen as Galen's most convincing application of his logico-empirical method. Even so, Galen's attempt to offer a non-sceptical account of the establishment of knowledge emerges as a sustained and serious philosophical project. It is a project that, as Hankinson suggests, in a coda to his main argument, partly justifies Galen's own self-estimate as one of the few people in his age genuinely devoted to the search for knowledge to act as a reliable basis for medicine. In this respect, perhaps more than any other, Galen stands out as an intellectual exception in his own age and to some extent in any period of antiquity.

Galen is also exceptional, among medical writers, in the scale and depth of his engagement with the most influential philosophical movements in his own day, an involvement that goes well beyond purely medical topics. However, as the three final chapters show, defining Galen's position is actually quite difficult, since it differs from that of most philosophical thinkers in his age. He is not exceptional in his classicism, for instance, in his tendency to elevate the thought of 'the ancients', especially Plato and Aristotle, above subsequent thinkers, such as the Stoics. However, he is unusual in his independence from any current philosophical school and in his eclectic and sometimes idiosyncratic reading of earlier thought. This, in turn, reflects the uniqueness of his medico-philosophical intellectual project, the most distinctive feature of the 'world of knowledge' that he sets out to create. This exceptional stance, and its wide-ranging implications for our interpretation of Galen's writings and the theories for which he is an important source, are brought out in connection with Galen's response to Platonism (Chiaradonna), Aristotle (van der Eijk) and Stoicism (Tieleman).

As is well known, Galen gave a special authority to Plato, among philosophers, and many of his views reflect, broadly, the ideas common in the Platonism of his time (so-called 'Middle Platonism'). However, if we look at his ideas more closely, how far do they actually match those of first- and second-century Middle Platonists? This is the question raised by Riccardo Chiaradonna. In fact, on each of the topics he examines, Galen's approach and conclusions are substantively different from those typical of Middle Platonism, even allowing for variations between different Platonists. For instance, one of the key issues of Platonist debate was the truth-status of the temporal creation of the universe in Plato's *Timaeus*. Galen stands aloof from the debate, regarding such questions as incapable of being determined by natural enquiry based on observation. On the other hand, Galen adopts

the Platonic idea of a providential craftsman of the natural order, maintaining that this idea *can* be demonstrated by empirical investigation – a view that has no parallel in contemporary Platonist thinking. Chiaradonna also distinguishes Galen's epistemological approach, with its distinctive combination of logical inference and perceptual observation, from the a priori or idealist approach found in Alcinoüs or from Plutarch's Academic-style scepticism. In short, Galen's philosophical positions, if closely examined, match his explicit stance of intellectual independence, and place him apart from contemporary Platonists.

Galen's relationship to Aristotle is also more complex than it appears, as Philip van der Eijk brings out, focusing on the study of living nature, or what we would call 'biology' or 'physiology'. Although Galen does not give Aristotle – by contrast with Plato – a specially authoritative status, his references to Aristotle are very extensive and the implicit use of his ideas is even more pervasive. This is so even in cases when Galen prefers to stress, instead, his closeness to Plato or Hippocrates. A related feature, underlined by van der Eijk, is that Galen seems to be significantly *more* exacting in his critical responses to Aristotle than to other thinkers. It is as if Aristotle – because he goes so much further than other thinkers in natural enquiry – should have known better and should have avoided the mistakes that he does make. A further feature of Galen's response is a distinction between Aristotle and current Aristotelian thinkers, who are criticised both for their ignorance of Aristotle's thought and their failure to take note of post-Aristotelian developments in anatomy. Galen's relatively cool attitude to the Aristotelian approach is explained by reference to Galen's deep disagreement on the location of the ruling part of the psyche, his view of contemporary Aristotelians as backward-looking, and – paradoxically – the great extent to which the two thinkers share common ground.

In Galen's reception of Stoicism, the most obvious feature is Galen's full-scale critique of Stoic (specifically Chrysippean) psychology in Books 2–5 of *On the Doctrines of Hippocrates and Plato* (PHP).²⁴ Teun Tieleman, however, concentrates not on this well-known debate, but, rather, on Galen's relations with the Stoics of his own day and on the specific Stoic writings or other sources that Galen knew and used. Galen's initial contact with Stoicism came in the study of Stoic logic that formed part of his lengthy and elaborate education in philosophy and medicine. This is a relatively unexplored approach to Galen's work; it raises special difficulties and offers the promise of fresh insights. For instance, from PHP and *On*

²⁴ On this debate see Tieleman 1996a, 2003a; and Gill 2006: 238–90.

Prognosis, we can pick up some themes of current debate in Rome in Galen's first visit there (AD 162–6), notably Stoic controversy over the meaning of a specific term in Zeno's argument for the heart-centred account of embodied psychology. Also we can detect, in works of the second period in Rome (AD 169–213), that Galen's response to Stoic thought, especially on physiology (the elements) and epistemology, is more constructive than it is in *PHP* 2–5. This change of stance may be linked with Galen's claim that the ideas in question have their roots in Hippocrates, an idea that seems to have been deployed by certain earlier second-century Stoics cited by Galen. Tieleman also reviews the evidence for Galen's contact with the Emperor Marcus Aurelius, suggesting that, in spite of their shared philosophical interests, the relationship was simply that of doctor and patient. He concludes by examining what Stoic books Galen actually read, finding that these are more limited in scope, and in periods of time, than we might have expected from the wholesale attack on Stoicism in *PHP* 2–5. The picture that emerges of Galen's relationship to Stoic thought, thinkers and texts is both more piecemeal and more nuanced than it appears at first sight.

The preceding outline of the chapters underlines an important feature of the whole volume. The contributors, drawing on their exceptional expertise in Galen's works or his intellectual and cultural context, are not simply summarising currently received views on Galen's conception of knowledge. Their contributions cut well below the surface of our present scholarly understanding of Galen's methodology, attitudes and reading practices. The Galen who emerges is not only, as is already recognised, a substantial thinker as well as a hugely important source for the intellectual life of his day. He is also a more complex and innovative figure, whose exceptional medico-philosophical programme places him at an oblique angle to much of the intellectual life of his own day, in both medicine and philosophy. At the same time, as is demonstrated especially in the earlier chapters in the volume, his system-building project also reflects a deep involvement in his contemporary thought-world, and displays certain characteristic features of this world, including its aspiration towards encyclopedic mastery of information and ideas. Thus the volume as a whole takes us significantly further in making sense of the two kinds of 'world of knowledge' that form our subject, and thus in the mapping of a substantial part of the intellectual life of the Hellenised Roman Empire in the second century AD.

CHAPTER I

Galen's library

Vivian Nutton

THE DESTRUCTION OF GALEN'S LIBRARY

The great fire that consumed the Temple of Peace in early AD 192 also destroyed a large part of Galen's personal library, along with his drugs and instruments.¹ It robbed him of rare tracts by others as well as copies of several of his own books. Some of them, such as *On Prognosis*, he may never have been able to retrieve or recompose during the rest of his long life.² For a scholar-physician who expressed himself so much through books, and whose authority depended in part on book-learning, this was undoubtedly a great blow. From being able to hand out copies of his own and others' writings to his friends and to doctors in need, he was reduced to depending largely on the generosity of others to make good what had been burnt in the fire.³ The loss of his library would, indeed, have caused him enormous grief, so he claimed, had not his philosophical training, in part inherited from his father and grandfather, allowed him to maintain his equanimity even in the face of such a disaster.⁴ Others, he noted, showed less self-control – and paid for it. Callistus the grammarian, who had also lost his books in the fire, could not sleep, fell into a fever and died of grief.⁵

Galen's library had been kept in a storehouse off the Via Sacra in the centre of Rome, possibly in one of those that housed rare goods coming

¹ Herodian, *Hist.* I.14, and Cassius Dio, *Hist.* LXXIII.24.1, place the fire among the portents of the death of Commodus in AD 192: new evidence from Galen, *Ind.* 23, dates it to the end of winter, two or three months before the beginning of summer and the arrival of the Etesian winds.

² Galen, *Hipp.Epid.* VI.8: CMG V.10.2.2, 485. Since our text of *On Prognosis*, XIV.599–673, shows no signs of reworking or recomposition, it must derive from a copy retrieved later by Galen or someone else from those left with friends, *Ind.* 21. The latter is more likely, since Galen makes no mention of it in *Lib.Prop.*

³ Meyerhof 1929: 84.

⁴ Galen, *De indolentia* (*On the Avoidance of Grief* = *Ind.*) 59. References are to the section numbers in the *editio princeps* of Boudon-Millot 2007b. For fragments known earlier in Arabic and Hebrew, see Halkin 1944: 110–15; Zonta 1995: 113–23.

⁵ Galen, *Hipp.Epid.* VI.8: CMG V.10.2.2, 486. *Ind.* 7 tells a similar story but names the man as Philides, although the reading here is far from certain.

from Egypt and Arabia. It was well made, the only wood being in the doors, isolated from other buildings and under military guard because it housed some of the imperial archives. No wonder that it attracted a higher rent because of its presumed impregnability.⁶ Whether, like Callistus, Galen kept all or most of his books here all the time is unclear, since he remarks that he had put into store there all his household paraphernalia, drugs, books, gold, silverware and loan documents because he was intending to move to Campania, where he owned another large property.⁷ However he had not yet moved, and he nowhere else remarks on the bad luck that the fire occurred at a time when all his library was in store. Rather, he gives the impression that this was where he kept much of it normally. He was doubly unfortunate, for he had already arranged to have two copies made of all his books, excluding those that were going to remain in Rome, one for general distribution, the other for Campania, but he had not yet succeeded in sending everything to Campania. Two months later and his losses would have been much less serious.⁸ As it was, since all of them were destroyed, he had to rely on the help of others or on copies preserved in public libraries to recover much of his own writings, but much had gone beyond recovery, including his notes and his copies of other works, themselves lost when the fire destroyed many other libraries.⁹

OUR KNOWLEDGE OF GALEN'S LIBRARY

What do we know of Galen's library before or after the fire? How far can we reconstruct the written basis of Galen's own erudition, and how can we use this information to throw light on Galen's activities as an intellectual in Antonine Rome? The answers to these questions are far from easy to establish, even after the rediscovery of *On the Avoidance of Grief*, but even a partial attempt may help in the difficult task of placing Galen in context.

It is clear that Galen's library must have been enormous. It is not just that he wrote so many titles; many of his treatises were in several books, each occupying a single book roll, so that one must imagine at least six

⁶ Galen, *Ind.* 8–9.

⁷ *Ibid.*, 4, 10. There is a hint, but no more than that, at *Ind.* 49, that he had been dismissed from his post as an imperial doctor.

⁸ *Ibid.*, 21–2.

⁹ *Ibid.* 21 (public libraries); 29–30, 32 (notes); 12–14, 17–18 (copies of works lost in other libraries). For other Roman libraries, Stročka 1981; Cavallo 1988; Blanck 1992.

or seven hundred rolls containing his own writings alone.¹⁰ In addition, shorthand writers took down his words and copied out whatever other treatises he wanted for his own purposes.¹¹ It is very likely that his was among the largest ancient collections of medical books, along with that of that voracious reader, the Elder Pliny, but any attempt to place Galen, and others, along a spectrum of medical bibliophilia is doomed to failure.¹² Both Celsus, the author of *On Medicine*, and Rufus of Ephesus were men of considerable learning, but establishing their sources is far from easy, and next to impossible for other doctors. Papyrological and archaeological evidence for medical libraries is ambiguous at best. One cannot put much weight, for instance, on the small number of rolls carved on a late sarcophagus of a doctor from Ostia or added in the Roman period to an Athenian grave relief, now in Freiburg, for these are symbolic representations of medical culture, not visual records of real life.¹³ The request of an Egyptian doctor in the second or third century AD to his mother, asking her to shake off the dust that had gathered on his medical books, might suggest he owned only a few books, but sons have a tendency to demand an awful lot of cleaning up from their mothers.¹⁴ Galen's own comments about the books available to his less fortunate colleagues imply that they owned a mere handful of books. He recommends epitomes of his own more voluminous writings as more suitable for those who had neither the time nor the inclination to involve themselves with long and complicated expositions.¹⁵ His demands in *On Examinations* for a basic knowledge of a canon of distinguished authorities from the past presume that any competent physician would have a substantial library, but it is also clear from surviving tracts that much of this 'essential learning' could be gained from handbooks and summaries of one kind or another.¹⁶ But undoubtedly there were other healers with substantial resources, even if, as Galen complains, they did not spend as much as he did on books. Anyone who bought the 48 books of Julian's commentary on *Aphorisms* (and I suspect that Galen had), let alone the 156 books written by Tiberius Claudius Menecrates,

¹⁰ As-Samaw'al, fl. 1165, says that the library held 'many thousand precious works on philosophy and science', Rosenthal 1950: 563, but cites as his source 'Plato in his *Laws*'!

¹¹ Galen, *Aff. Dig.* 9: V.48 (contrasting, presumably, his own behaviour with that of others); cf. *Lib. Prop.* 1: XIX.14; *Praec.* 5: XIV.630; Jacob 2000: 87–102.

¹² For private libraries, Cavallo 1988: 31–46; Blanck 1992: 113–20; Jacob 2000: 87–102; Casson 2001.

¹³ McCann 1978: pl. 174–5. The relief in the Antikensammlung of the University of Freiburg im Breisgau is, as yet, unpublished.

¹⁴ Pap. Ross. Georg. III.1. Cf. Marganne 2004: 81–4.

¹⁵ Galen, *Comp. Puls.* 1: IX.432–4.

¹⁶ Galen, *Opt. Med. Cogn.* passim. Cf. van der Eijk 1999a.

required a considerable amount of money to pay for them and also space in which to house them.¹⁷

The rediscovery of *On the Avoidance of Grief* amplifies greatly our understanding of how Galen created his library. Sometimes he wrote his own summaries of books on medicine and philosophy he had read, or assembled drug recipes from a variety of different sources, some given to him, like the major collection bequeathed by his friend Teuthras, others bought, others acquired in exchange.¹⁸ He consulted numerous libraries in Rome, finding things that were not in the catalogues or had been wrongly identified, and, he implies, arranging to have his own copies made.¹⁹ He also attempted to obtain as accurate a text as possible of major authors, making at times what might be thought of as a totally new edition. Such were his copies of Theophrastus, Aristotle, Eudemus, Phaenias, a mysterious Clitus, Chrysippus and the 'ancient doctors'.²⁰

But a comprehensive list of Galen's library is an unattainable objective for three obvious reasons. First, since we are dependent entirely on what Galen tells us, we can have no knowledge of those books in his library that he fails to mention or that he cited in works that are no longer extant. Second, a reliance on citations is bound to omit passages that allude to authors or books without naming them. Platonic echoes, for instance, can be found throughout Galen's writings, and an acute reader of Aristotle can also find innumerable allusions to the Aristotelian corpus. But Galen is a voluminous author as it is, without having additionally to resort to intertextuality. Third, Galen's writings present a particularly severe case of the problem that bedevils any attempt to reconstruct an author's reading from his quotations and references, namely the difficulty of distinguishing direct from second-hand quotation. Even more than with Plutarch, Athenaeus or Eusebius of Caesarea, Galen's deployment of rhetoric and his apparent omniscience may conceal a considerable dependence on the work of others.²¹ There can be little doubt, for instance, that the references to textual problems are more frequent in Galen's later Hippocratic commentaries than in the earlier ones, and it is tempting to believe that at least some of this information came from the much-maligned Rufus of Samaria.²² But my intention here is not to look at Galen's use of earlier Hippocratic commentators, valuable

¹⁷ Galen, *Adv. Jul.* I: XVIII A.248; *Inscr. Graec.* XIV.1759.

¹⁸ Galen, *Ind.* 29–30, 32–6. ¹⁹ *Ibid.*, 13–14.

²⁰ *Ibid.*, 14–16. His emphasis on Peripatetic writings in *Ind.* may suggest that his addressee was himself a Peripatetic.

²¹ Ziegler, 1951, cols. 914–28; Braund and Wilkins 2000: 71–240; Carriker 2003.

²² Galen, *Hipp. Epid.* VI: *CMG* V.10.2.2, 212, 293, with Pfaff 1932: 356–9; Smith 1979: 164. In general, Manetti and Roselli 1994.

though such a study is, but to examine in particular his knowledge and use of literary sources for two reasons. Since what Galen tells us about his literary reading is relatively restricted, we may be able more easily to identify patterns and practices that can be checked against the more extensive information he gives on medicine and philosophy. A study of Galen's citations also offers a way of putting Galen into his intellectual context.

GALEN THE ALLUSIONIST

Galen's library was not confined to medicine, or even to medicine and philosophy.²³ Like his father, he was eager to display his talents as a man of wide learning and culture, scattering quotations and allusions across his writings. But although Galen was acquainted with several contemporary authors whose writings have survived to us, and with several, like Marullus the writer of mimes (and perhaps Arria the female philosopher), whose works have not, he gives no clear indication that he possessed any of them himself.²⁴ Herodes Atticus is described as 'among the best speakers of our time', while Lucian is merely mentioned for his ability to produce convincing pastiches of earlier treatises on medicine and grammar.²⁵ From Galen's description, one would be hard pressed to identify the ex-consul Arrian, cupping his hand behind his deaf ear to catch the words of the speaker, with the historian of Alexander and the student of Epictetus, if, indeed, that identification is the correct one.²⁶ Only with Aelius Aristides, 'one of the greatest of orators', is there a hint that Galen had personally read any of his writings.²⁷ A reference to the power of Asclepius to save from shipwreck may have come from the famous *Paeon* of Aristides, which, if Habicht is right, certainly mentioned the near-shipwreck from which the god rescued his adherent.²⁸ But there were other paeans, some cited in the commentary on the Hippocratic *Oath*, and Galen's reference to the saving power of the god need not have been based on any specific literary testimony.²⁹ Nor need Galen have derived his information that Polemo

²³ Among studies of Galen's literary sources, see Wenkebach 1928; Deichgräber 1956; Silk 1983; Manetti and Roselli 1994. Studies of Galen's use of literary authors outside his Hippocratic commentaries are even rarer: De Lacy 1966; Moraux 1987. Despite its title, Bröcker 1885 deals only with Galen's methods of Hippocratic commentary.

²⁴ Marullus, *AA* VII.12: II.631, cf. *PHP* I.4–5: *CMG* V.4.1.2, 72–4; Arria, *Ther.Pis.* 2: XIV.218.

²⁵ Galen, *Opt.Med.Cogn.* 9 and 19; *Hipp.Epid.* II.6.29: *CMG* V.10.1, 402, with Strohmaier 1976.

²⁶ Galen, *XL*.12: III.895. ²⁷ Galen, *Plat.Tim.* 4.

²⁸ Galen, *Prop.Plac.* 1.2; Herzog 1934 (= *Inscr. Ascl. Perg.* 145).

²⁹ Galen, *Hipp.Ius.* Rosenthal 1956: 73. His quotation from the *Paeon* of Aripbron is not noted by Stafford 2005: 137–8.

the Sophist called Rome the epitome of the whole world directly from a book or speech by Polemo, for the phrase seems to have been widely current.³⁰ Other contemporaries or near-contemporaries, like Menodotus or Favorinus, become the object of attack by Galen, and their comments provide the trigger for Galen's own exposition.³¹

By contrast, those contemporary and near-contemporary authors from whom Galen benefited, except for his teachers, are generally passed over in silence. We are thus fortunate that among the handful of non-medical authors from the Roman period whose books Galen cites with approval are two familiar to us today – Plutarch and Ptolemy. A hurried look at Kühn's edition of *Ant.* II.12 might seem to add a third, Pliny the Elder, but this lemma is an insertion by Chartier, and nowhere else does Galen cite directly a Latin author, unless it is of a Latin recipe preserved in a Greek author.³² The reference to Plutarch is unusual. It comes in the middle of a sustained attack by Galen on Chrysippus for quoting at some length from Homer, Hesiod and other poets. As Phillip De Lacy argued, Galen is not specifically challenging the right of Chrysippus to introduce the evidence of poetry, but complaining that he has done this inappropriately and, above all, incompetently.³³ Instead of selecting only those passages that placed reason in the heart, Chrysippus included many that set the passions, grief, anger and spirit, there. Chrysippus was familiar with a great deal of poetry, and, says Galen, knew perfectly well that, in some verse or other, sooner or later, poets were likely to attest to almost every doctrine, 'as Plutarch also showed in his *Homeric Studies*'.³⁴ This type of throwaway comparison is very rare in Galen, not least in its brevity. It implies that his audience too recognised the authority of this source, and it may be no coincidence that this lost work of Plutarch is mentioned three times by Aulus Gellius, Galen's older contemporary.³⁵ Gellius makes it clear that, despite its title, this was a treatise with a philosophical rather than a literary bent, in which Plutarch criticised Epicurus, and described, via Aristotle, the food taboos of the Pythagoreans. Did Plutarch also criticise the Stoics along the lines here followed by Galen?

Apparently more straightforward is the inclusion of Ptolemy in a list of essential writers on astronomy, along with Dioscurides the Orator,

³⁰ Galen, *Hipp.Art.* I.22: XVIII.A.347; Athenaeus, *Deipn.* I.20.

³¹ Galen, *Lib.Prop.* 9, 11 and 12: XIX.38, 44–5.

³² Galen, *Ant.* II.12: XIV.183. Galen's references to Scribonius Largus, a bilingual author, are mediated through other (Greek) authorities, and almost certainly derive from a work by Scribonius written in Greek rather than his extant Latin *Compositiones*.

³³ De Lacy 1996: 264–5. ³⁴ Galen, *PHP* III.2.18: V.300.

³⁵ Aulus Gellius, *Noct. Att.* II.8; II.9; IV.11.

Apollinaris of Aezani and an undecipherable al-Thanus.³⁶ All of them seem to be writers of the Roman period (they certainly come after Hipparchus in Galen's list), and bear witness to Galen's considerable knowledge of technical astronomy (and astrology). That the Arabic version of the commentary on *Airs, Waters and Places* at this point calls Ptolemy the king of Egypt is no reason for assuming with Gerald Toomer that the whole reference to Ptolemy is a later Arabic interpolation, for the confusion between astronomer and dynasty was a common one.³⁷ Gotthard Strohmaier informs me that Galen never mentions Ptolemy again in this commentary, so we cannot tell on what grounds the Arabic writer al-Mas'udi stated that Galen often used his work in attacking Hipparchus and may even have met him in his youth.³⁸

The great majority of Galen's citations, however, come from the Greek classics, and they reveal some interesting patterns. Galen displays relatively little interest in history, and, indeed, seems to have displayed some contempt for historians. He twice warns his readers against reading medical texts as if they were Herodotus or Ctesias, for pleasure rather than for solid advantage.³⁹ He does not appear to cite Ctesias' historical work, and there are only a handful of citations of Herodotus.⁴⁰ There are none to any other historian, save Thucydides, unless Galen is referring by implication to Polybius, as well as Thucydides, when he talks of orators, philosophers and historians who use the word *aphormē* to mean an initial action that could be termed a cause, for this is a favourite word with Polybius.⁴¹

Thucydides is by far and away Galen's most cited historian; indeed, after Hippocrates, Plato and Aristotle, he is his pet prose author. This is not simply because he wrote about plague and disease (for others, not mentioned by Galen, also did), although most of Galen's references derive from Thucydides' section on the plague of Athens, and he wrote a specific tract dealing with Thucydides' account.⁴² He appreciated Thucydides' accurate reporting and his attempts to give precision, but he accepted that, as a non-physician, he was not quite able to select everything that a

³⁶ Toomer 1985, from the *Commentary on Airs, Waters, Places*. ³⁷ Ibid., 204.

³⁸ Ibid., 201. I agree with Toomer that this meeting is a typical Arabic fiction.

³⁹ Galen, *AA*.III.9: II.393; *Hipp.Epid.* VI.3.13: XVIIIB.33.

⁴⁰ Unless his reference to Ctesias' views on Hippocrates' method of treating dislocations, *Hipp.Art.* IV.40: XVIII A.731, comes from a historical work, which is far from certain. For Herodotus, see *Alim.Fac.* I.13: VI.536; *Hipp.Aph.* VII.50: XVIII A.156; and *Protr.* 9 and 13: I.22; 35.

⁴¹ Galen, *Hipp.Epid.* VI.3.18: XVIIIB.54. Cf. Thucydides, *Hist.* I.90; Polybius, *Hist.* I.41.6; II.52.3.

⁴² Kudlien 1971. Galen's comment at *Ind.* 54 that historians wrote their descriptions of disasters to remind readers of what might befall them may relate specifically to life under Commodus, but is more likely to be a more general reference to such as Thucydides.

Hippocrates would have seen as significant. Had he done so, his account would have been even more valuable.⁴³ But Galen's use of Thucydides, or at least of the first three books of Thucydides, goes beyond the merely medical. He comments on his use of *malista* with numbers to signify an approximation ('as do most writers nowadays'), and on the use at *Hist.* III.23.5, of *ē* instead of *kai* as conjunctive, rather than disjunctive.⁴⁴ He is interested in what Thucydides has to say about sound judgement, whether by Themistocles or Pericles, and on its distortion by anger.⁴⁵ Twice he quotes Diodotus' response to Cleon in the Mytilene debate in order to show the need for both sound reasoning and precision of language.⁴⁶ But there are also other references, almost in passing, to the appearance of stars in the sky during an eclipse, and to Harmodius and Aristogeiton, who chose to act even though they knew the potential danger, and thus can serve as a model for a doctor who, in a desperate case, might prefer to intervene and possibly fail rather than just stand by – and inevitably fail.⁴⁷

Other historians are passed over in silence – who, for example, were Galen's sources for the antiquarian information given in the commentary on the Hippocratic *Oath*? – or almost so. Xenophon's *Anabasis* is mentioned for its reference to snow-blindness, but it is Xenophon the philosophical reporter who is cited more often.⁴⁸ There are quotations from or allusions to the *Memorabilia*, the *Symposium* and the *Oeconomicus*, but not to the *Histories*.⁴⁹ Galen's comment on Xenophon's style as keeping pretty close to normal usage, but occasionally introducing rare words and expressions, can, of course, apply across the genres.⁵⁰

Non-philosophical prose writers are even rarer – three or four references to Demosthenes, one to Dinarchus and a comment on Andocides' use of *malista* in his speech *On the Mysteries* to indicate a round number.⁵¹ Quotations from Aeschines the Socratic, Lysias, Hyperides and Critias' *Aphorisms* and *Colloquies* are introduced to show what classical Greeks

⁴³ Galen, *Hipp.Art.* IV.39: XVIII A.729; *Diff.Resp.* II.7: VII.850–I.

⁴⁴ Galen, *Hipp.Art.* II.21: XVIII A.450; *Hipp.Off.* III.19: XVIII B.849.

⁴⁵ Galen, *PHP* V.7: V.503; *Hipp.Epid.* VI.5.2: XVII B.237; VI.1.3: XVII B.819.

⁴⁶ Galen, *UP* III.10: III.42; *Opt.Med.Cogn.* 8.4.94.

⁴⁷ Galen, *UP* X.3: III.776; *MM* X.10: X.719.

⁴⁸ Galen, *UP* II.28: III.775–7.

⁴⁹ Galen, *PHP* IX.7: V.781; *UP* I.9: III.25; *Hipp.Art.* I.1: XVIII A.301.

⁵⁰ Galen, *Hipp.Art.* I. 68: XVIII A.414–15.

⁵¹ Galen, *PHP* V.7: V.503; *Protr.* 6: I.10 (but could be Antisthenes); *Praen.* I.1: XIV.603 (an allusion to *De Cor.* 263); *Hipp.Prog.* III.2: XVIII B.237; Dinarchus, *Hipp.Prog.* III.2: XVIII B.237; Andocides, II.21: XVIII A.450 (the word is missing from the manuscripts of *Myst.* 38, but is usually restored by editors).

understood by *gnōmē*, judgement.⁵² Did Galen have copies of Lysias and Critias in his library, or was he simply repeating what he had learnt at school; or did he take his examples from a secondary source? A secondary source is far the most likely here, although to look for a specific monograph on the theme of judgement, as Amneris Roselli suggests, may be to go too far, and, of course, Galen being Galen one cannot exclude the possibility that he added something of his own to his source.⁵³

INTERMEDIARY SOURCES

This is a proviso that bedevils any discussion of Galen's sources.⁵⁴ Sometimes, his formulation points clearly to the intermediary source. When in his commentary on Hippocrates' *Surgery* Galen quotes verbatim from an otherwise unknown Stoic Simias on what is meant by *catalēpsis*, the context suggests that he has lifted this passage from his teacher, Aeficianus, whom he characterises at this point as practising a Stoicised medicine.⁵⁵ By contrast, although Galen cites Antiphon the Sophist, *On Truth*, Book 1, alongside Lysias and Critias, in his discussion of *gnōmē*, his use elsewhere of substantial passages from the second book suggests that he did possess a copy of this rare work. He quotes it both for its vocabulary, and, in *On Medical Names*, at some length for what it has to say about fire, bile and fevers.⁵⁶ The variety of ways in which Galen refers to Antiphon and to his book implies very strongly that he is not using a secondary source – or at any rate not a single secondary source. Did he have direct access to other early philosophers alongside the *Golden Words* of Pythagoras that, he claimed, he read each day?⁵⁷ Alas, there is no clear indication that, when referring to earlier thinkers, Galen was in a better position than we are to discuss their ideas.⁵⁸ He seems to have relied on secondary digests, perhaps only listing their views, to his annoyance, on topics that were eminently disputable – and in his view also incapable of resolution – such as the eternity of the world or the nature of the soul.⁵⁹

There is, however, one passage in an Arabic biography of Galen that has been taken to show that Galen possessed a copy of at least one

⁵² Galen, *Hipp. Off. Med.* I.3: XVIIIIB.657. ⁵³ Manetti and Roselli 1994: 1572.

⁵⁴ Good discussion in *ibid.*: 1571–9. ⁵⁵ Galen, *Hipp. Off.* I.3: XVIIIIB.564.

⁵⁶ Galen, *Hipp. Off.* I.3: XVIIIIA.656; *Hipp. Epid.* III.32: XVIIIA, 680, 681; *Med. Nam.* 34.

⁵⁷ Galen, *Aff. Dign.* 6: V.30 and 33.

⁵⁸ Galen, *HNH* 1.15; *CMG* V9.3.20; above, p. [5ff.]; Manetti and Roselli 1994: 1573.

⁵⁹ Galen, *Prop. Plac.* 1.2: *CMG* V3.2.56, with other testimonia.

pre-Socratic. Ibn abi Usaybi'a, claiming to base himself on *On the Avoidance of Grief*, reports that 'Some of the burnt manuscripts were in the hand of Aristotle, others of Anaxagoras, others of Andromachus. He had them from his teachers, and he carefully checked those that came from Plato, even travelling widely to correct his own copy against others.'⁶⁰ The biographer cannot be quoting directly from this tract, but is paraphrasing, or relying on a source that brought together various pieces of information.⁶¹ Galen himself talks of autograph copies of many ancient grammarians, orators, doctors and philosophers, including the Plato that had belonged to Panaetius, in the libraries on the Palatine, but he never mentions an autograph of Aristotle, Andromachus or Anaxagoras.⁶² Johannes Ilberg argued that Galen was not talking about 'autographs', *autographa*, but about 'manuscripts', *antigrapha*, and that this mistake went back to an error in the Greek manuscript used by the translator, but it is easier to assume that the source of Ibn abi Usaybi'a had mistaken a reference to the Palatine libraries for that of Galen.⁶³ Given Galen's long quotations from Aristotle and both the Andromachi (doctors respectively to Nero and Trajan), he certainly had his own copies of their writings.⁶⁴ By contrast, the reference to Anaxagoras is unexpected, and, if true, of considerable importance for students of pre-Socratic philosophy, for it would show that at least one copy of this philosopher's writings was available in Antonine Rome. But although so good a student of Greek medicine and philosophy in Arabic as Strohmaier accepted this in principle, none of his supporting arguments stands up to scrutiny.⁶⁵ Galen does at times preserve material that has not otherwise come down to us, but his knowledge of Anaxagoras appears to have been mediated through others: Anaxagoras, fr. A.90, could come, directly or indirectly, from Theophrastus, and Galen himself cites Sabinus as his source for fr. B.22a. Besides, Greek names are notoriously capable of being corrupted in Arabic, and, even though two different Arabic authors preserve the same information, that is still no guarantee that corruption had not entered the Arabic tradition at an early stage, or that

⁶⁰ Meyerhof 1929: 84–5.

⁶¹ For discussions of the Arabic biographical tradition of Galen, see Swain 2006; Strohmaier 2007. Swain, esp. 414–19, remarks on the apparent scrupulosity of Ibn abi Usaybi'a in recording his sources. He is far more detailed and less fanciful than other biographers, but, as here, he may be more dependent on others than he lets on, or inaccurate in his own deductions.

⁶² Galen, *Ind.* 13, 15. ⁶³ In Meyerhof 1929: 85, n. 4. Cf. Boudon-Millot 2007b: 85.

⁶⁴ Galen, *Ind.* 17, reports that he had transcribed a work 'consonant with Aristotle' but apparently preserved in a Palatine library anonymously or under another name.

⁶⁵ Strohmaier 1970: 80; review in *Deutsche Literaturzeitung* 94,12,1973, 887.

the presence of Anaxagoras is not due to a creative misunderstanding by a later biographer.⁶⁶

But there are also other difficulties in evaluating Galen's knowledge of philosophers, not least the way in which his interests shift over the years. Posidonius, for instance, figures very prominently and very flatteringly in the discussions throughout *On the Doctrines of Hippocrates and Plato*, from the 160s and early 170s, but is otherwise represented only by a single reference to his logic and an apparent quotation from his writings on ethics in *The Soul's Dependence on the Body*, one of the last books to be written by Galen, perhaps around AD 210.⁶⁷ At the very least this shows that Posidonius was hardly constantly on Galen's mind, and that he served his purpose mainly as a useful weapon with which to belabour Chrysippus and more orthodox Stoics. When this was no longer part of Galen's plan, Posidonius disappears beneath Galen's horizon.

Secondary sources are particularly used in the Hippocratic *Commentaries* to supply substantial quotations from poetry to elucidate questions of Hippocratic meaning and style. Even had we not Galen's occasional references to what the 'grammarians' or 'others' say, it would be easy to deduce that much of his choicest erudition was borrowed from others.⁶⁸ But in his other treatises, quotations are fewer and vaguer, 'in tragedy', 'a comic poet', and he alludes rather than quotes directly. Some references are apparently inserted from memory, thereby giving a better insight into Galen's own preference. Whether the unique quotation from the *Freighters (Holkades)* of Aristophanes in *On the Properties of Foodstuffs*, a dietetic treatise, is Galen's own or derives from a lexicon like that of Didymus Chalcenterus is an open question.⁶⁹ That Galen used it to comment on the spelling of a word suggests the latter possibility, the source in Aristophanes, one of his favourite authors, the former. A clearer example of Galen introducing passages from his own reading comes in the unusual setting of a tract on drugs, where he quotes from Aristophanes and Theocritus to show how people in the past used to refer to larks.⁷⁰ The quotation from the *Birds* is

⁶⁶ I am grateful to Malcolm Schofield for discussing this problem with me. One might, for instance, think of Praxagoras, one of the 'ancient doctors'. Interestingly, Galen does not mention Anaxagoras in his tract *On the Different Types of Homoeomerous Parts*. Although it would be easy to emend the mysterious Κλίτου at Galen, *Ind.* 15 to Ἡράκλειτου, the context suggests an early Peripatetic (read Κλειτάρχω?).

⁶⁷ See the list in Edelstein and Kidd 1972: 760.

⁶⁸ Wenkebach 1928; Silk 1983; Manetti and Roselli 1994: 1571–9. Not that Galen could not add material of his own – and he did.

⁶⁹ Galen, *Alim. Fac.* I.27: VI.541. For his use of Didymus' lexicon (of which he made an epitome), *Ind.* 24, 27.

⁷⁰ Galen, *SMT* XI.37: XII.360, citing *Aves* 471, and Theocritus, *Id.* 7,23.

rather too long for its purpose, and the slight irrelevance of the whole entry suggests an impromptu thought, entirely in keeping with Galen's habit of going off at times at a slight tangent.⁷¹

GALEN'S CHOICE OF AUTHORS

In Galen's choice of authors there is little surprising. Galen is a typical learned Greek of the second century. The 'poet' par excellence is for him Homer, just as Sappho is 'the poetess', and quotations from and allusions to Homer outnumber all other poets put together.⁷² Hellenistic poetry is only briefly mentioned, and several of Galen's quotations of lyric poetry are of extremely familiar passages – Archilochus' bandy-legged warrior, for example.⁷³ There are more quotations from and references to Euripides than to the other tragedians put together.⁷⁴ New Comedy is much under-represented. Menander has only three direct quotations, fewer even than Pindar, and one of those is almost certainly taken from Chrysippus.⁷⁵ This lack of references to New Comedy contrasts with the relative abundance of those to Old and Middle Comedy. But perhaps we should not be surprised at this imbalance, for Old Comedy held a professional as well as an artistic interest for Galen.

In *On My Own Books*, he lists four specific works on the vocabulary of Old Comedy: the three books of '*politika onomata*' (everyday words) in Eupolis, the two books on those in Cratinus and the five on those in Aristophanes; as well as a single book on words specifically found in comedy.⁷⁶ He also composed a short tract, *Is it Useful for Schoolchildren to Read Old Comedy*.⁷⁷ So when we find a long quotation from Plato the Comic poet describing Cinesias, there is at least the presumption that this was taken from a copy in Galen's own library.⁷⁸

But why this interest in Old Comedy, and why did he regard the loss of his work on Old Comedy as at least as severe as that of his private recipe collection?⁷⁹ As we have seen, Galen was concerned to use the

⁷¹ Cf. Galen, *Ind.* 25–6, for his use of Old Comedy to resolve a modern medical dispute.

⁷² Cobet 1885; Moraux 1987; for Sappho, Galen, *Protr.* 8: I.16; *QAM* 2: IV.771.

⁷³ Archilochus, fr. 114 West, cited in Galen, *Hipp.Art.* III.38 and 87: XVIII A.537 and 605.

⁷⁴ De Lacy 1966.

⁷⁵ Menander, Galen, *PHPIV*.6: V.412 (from Chrysippus); *Di.Dec.* I.9: IX.815, cf. *Menandri Monostich.* 562; *DNF* I.17: III.67 is a general reference to slaves in Menander's comedies. Pindar, *Protr.* 1 and 7: I.2 and 15 (2 different quotations); *Diff.Puls.* III.6: VIII.682.

⁷⁶ Galen, *Lib.Prop.* 17: XIX.48. The phrase is often mistranslated as 'political terms'.

⁷⁷ *Ibid.* Is there a hint of Plutarch's tract in favour of poetry or is this merely a typical debating topic?

⁷⁸ Galen, *Hipp.Aph.* VII.149: XVIII A.149. ⁷⁹ Galen, *Ind.* 23–8; and 32–7 (recipes).

language of the late fifth and fourth century BC to explain the meaning of words in obscure passages of Hippocrates. But he had a wider concern with good style. Galen was no rigorous Atticist. He preferred clarity to archaising pedantry, and although he was convinced that the best Greek was written by the classical authors, he in no way felt constrained to follow them and them alone. However, he was an even greater foe of neologisms, unintelligible precisely because of their novelty, and unnecessary because of the presence of clearer alternatives. When asked to recommend an ancient author to follow, Galen unhesitatingly plumps for Aristophanes. To find out the normal meaning of a word, one should avoid specialists like doctors and philosophers, and read someone like Aristophanes, who had to speak in an everyday vocabulary precisely in order to capture his audience. He had to use words his audience could understand – and here Galen quotes from the *parabasis* to the now lost second edition of the *Thesmophoriazusae*. If they were to get the point of his jokes about medicine, he had to use medical words and phrases that were in common parlance – Galen claims to be able to fill huge books with the comic poets' uses of medical terms like fever. So, if one wanted to write in a clear style that could be readily understood by one's patients and readers, then a model like Aristophanes (or, if one specifically wanted a philosopher, Plato) was the one to follow.⁸⁰

Style in an author of the second century AD also encompassed erudition, with references and allusions helping to establish the literary credentials of an author. Galen is no exception, and his prefaces are often carefully composed to create an impression. So, for instance, in the opening of *On the Composition of Drugs, by Kind*, Galen quotes two lines from a tragedy, in which messengers are dispatched to different parts of Greece, as a parallel to his own view of how some drugs work on different parts of the body.⁸¹ Galen elegantly follows the reference to Cadmean Thebes (a city famous for its gates) by the example of drugs that affect the portals of the liver. In the opening pages of the *Therapeutic Method*, quotations from Homer, Hesiod and Euripides accompany allusions to other classics of Greek literature, and philosophy and medicine as part of Galen's attack on the allegedly illiterate and uneducated Thessalus.⁸² Similar allusions and quotations, from Eupolis, an unknown comic poet, and two plays of Euripides, *Phoenician Women* and *Cyclops*, perform a similar function

⁸⁰ Galen, *Med.Nam.* 31–2, with the detailed commentary by Deichgräber 1956. Cf. also *Ind.* 24, 'useful for orators and grammarians, and for anyone who might want to use an Attic word'.

⁸¹ Galen, *Comp.Med.Gen.* I.1: XIII.363. The same quotation (= Nauck, *TGF*² 177) is cited, via Chrysippus, by Diogenes Laertius, *Vit.Phil.* VII.67.3.

⁸² Galen, *MM* I.1–3: X.1–30. Cf. Nutton 1991: 18–20; Mattern 2008.

in Galen's attack on Archigenes in the opening chapters of *The Different Types of Pulse*, Book 3.⁸³ They are there to demonstrate Galen's superior learning and style to an audience for whom both would have helped to carry conviction.

When Galen moves away from a strictly medical theme, to one intended for a broader audience, his reliance on quotation and allusion becomes even greater. The prime example of this is the *Protrepticus*, the *Exhortation to the Arts*. As both Adelmo Barigazzi and Véronique Boudon-Millot have shown, Galen includes stories and quotations, both familiar and unfamiliar, in this display-piece in honour of medicine.⁸⁴ It is a carefully crafted piece of literature that would not have been out of place among the works of Plutarch or Lucian. But there are other tracts by Galen that show a similar combination of style and erudition – *On Morals* or *On the Avoidance of Grief*, for example.⁸⁵ The latter includes stories that are found, in one form or another, in Plutarch and Diogenes Laertius.⁸⁶ In the *Commentary on the Hippocratic Oath*, of which we have perhaps a good third if it was originally written to a typical book-length of seventy pages in Kühn, Galen shows his acquaintance with both local Pergamene traditions and other antiquarians. He alludes to the story that linked Helen of Troy and her discovery of the plant *helenion* while in Egypt, and etymologises the name of Asclepius in the same way as an anonymous scholiast on *Iliad* 4.194.⁸⁷ He quotes Homer and at least two paean in honour of Asclepius, one, by Ariphron, said by Lucian to be 'extremely familiar', the other at present unidentified.⁸⁸ For the sections dealing with the biography of Hippocrates, he relies largely on the Hippocratic letters, supplemented by whatever personal information he could glean from the Hippocratic corpus.⁸⁹ Even in its fragmentary Arabic form, the erudition of its author, avowedly a Pergamene, stands out, as well as the way in which he could weave together historical and literary sources.⁹⁰

⁸³ Galen, *Diff. Puls.* III.1–2: VII.636–48.

⁸⁴ See the introductions to their editions and translations; CMG V.1.1 (1991); and the Budé edition, Paris, Les Belles Lettres, 2000.

⁸⁵ For the former, see the English translation by Mattock 1972, with the important additions by Zonta 1995: 29–79, 125–44. For the latter, Boudon-Millot 2007b: esp. 75–6, 81–2.

⁸⁶ *Ind.* 45, 48. The long quotation ascribed to *Ind.* by the Jewish moralist Ibn Falaquera does not appear in the new text, and seems to be a conflation of the famous anecdotes about Croesus and Polycrates mentioned together in the *Exhortation*. Zonta 1995: 113–23, esp. fr. 18, 20, 21; cf. Galen, *Protr.* 4: I.6.

⁸⁷ Galen, *Hipp. Ius.* pp. 59, 65–6.

⁸⁸ *Ibid.*, 73.

⁸⁹ *Ibid.*, 77–81.

⁹⁰ Rosenthal 1956 scrupulously refused to identify the author with Galen, although, oddly, forgetting the reference to the author's origin in Pergamum, 60.

GALEN'S USE OF HIS LIBRARY

What then does this tell us about Galen, his library, and his use of its contents? First, it confirms what he himself claimed about the great range of his knowledge, much, if not most, of it gathered together in his own library. It stands comparison with Plutarch's wide learning as expounded by Konrad Ziegler.⁹¹ There are the same sort of authors, the same sort of stories, occasionally the same quotations, and, if Plutarch shows the greater variety of authors, that can easily be put down to their different professional circumstances and the genres in which they worked. Even so, when Galen leaves the strictly medical arena, his style and his methods become very much closer to those of Plutarch or Favorinus. Galen's library, strong on the golden age of Greece, becomes much weaker once we reach the early Hellenistic period. There is nothing surprising in this – indeed, some might find Galen's allusions to his own contemporaries or near contemporaries more surprising – as it shows the heavy influence of the backward-looking tradition of Greek literary education. Galen's learning is very much a part of his style; it contributes to the rhetorical effects he aims to produce, whether directly by the choice of quotation or indirectly by the impression it leaves upon the audience. It is one essential element in the picture of Galen, the Antonine man of letters.

Not surprisingly, Galen's knowledge of Hellenistic and Imperial Greek medicine is ostensibly far greater than that of the Greek literature of the same period, and our understanding of his relationship to that medicine is also much clearer. Thanks to some excellent scholarship over the last thirty years, we can now see just how much Galen owed to his teachers, and to their Hippocratic predecessors. Galen has not so much been cut down to size as provided with a background against which his own contributions may be assessed. But Galen's use of non-medical material also warns us not to take all that Galen says at face value. Much came to him at second hand, in digests or doxographies.⁹² His drugbooks, as Caius Fabricius showed, are based primarily on a small range of sources, diligently copied out, which he then altered or supplemented from a variety of sources, informal as well as formal.⁹³ We also know the authors whose views he expected the 'complete' physician to have read. Like his non-medical preferences, they come from the classical or early Hellenistic periods, and one may well ask just what was available of their original writings even to a Galen in

⁹¹ Above, note 21. ⁹² See the essays by Vegetti and Roselli in van der Eijk 1999b: 333–96.

⁹³ Fabricius 1972. Galen, to judge from *Ind.* 6 and 31–9, had his own collection of special remedies, not all of which he chose to include in his published drug books.

Pergamum, Alexandria or Rome.⁹⁴ Galen, as far as I can tell, never mentions Dieuches or Pleistonicus on their own, for example, and cites Phylotimus independently only for his writings *On the Properties of Foodstuffs*. For the rest he seems often to reflect the summaries of handbooks. But one should note that Oribasius certainly could later include long extracts from Dieuches, and both he and Athenaeus report more of the dietetic writings of Phylotimus than Galen does.⁹⁵ Parallels with Galen's use of non-medical texts also suggest the importance of genre or, at any rate, of context within a particular tract, and, as the example of Posidonius shows, we have also to reckon with Galen's switching of interest from one area of medicine or philosophy to another.⁹⁶ A specific book, by Archigenes, for instance, might trigger off a whole series of partly polemical writings, and then be put on one side for years, left in the storehouse by the Sacred Way.

This chapter has tried to show something of Galen's erudition, and of the uses he made of that erudition, and to link together his medical and non-medical learning as revealed by the authors he owned. It is a contribution to a major project that still remains to be carried out fully – the rehabilitation of Galen the writer, the stylist and, dare one say it, the Sophist.⁹⁷

⁹⁴ Galen, *Opt.Med.Cogn.* with Nutton 1990.

⁹⁵ See the list of citations in Berthier 1972, for Dieuches; and Steckerl 1958, for Pleistonicus and Phylotimus. Galen reports, *Ind.* 13, that there were in the Roman libraries many autograph copies of 'ancient doctors', implying he had had copies made for himself.

⁹⁶ Above, p. 29. This is not meant as a criticism of Galen: it is a consequence of his voracious universality.

⁹⁷ Bowersock 1969: 58–88, located Galen alongside other practitioners of the 'Second Sophistic'. His interpretation was attacked by Brunt 1994: 43–6, 51–2, who points out that for Galen 'Sophist' is a pejorative term. Yet if we disregard the label, there are still many features that Galen has in common with Favorinus and Lucian, and his opponents may not have been as scrupulous as Brunt.

Conventions of prefatory self-presentation in Galen's On the Order of My Own Books

Jason König

COMPILATORY WRITING IN THE ROMAN EMPIRE

Galen's relationship with the oratory of the 'Second Sophistic' has received a great deal of attention within recent scholarship.¹ His interaction with the medical writing of his predecessors and contemporaries has been widely, albeit far from exhaustively, mapped. And yet, beyond those two areas very little attention has been given to his relationship with the compilatory habits of works that structure so much of the Greek and Latin writing of the Roman Empire.² Accumulation of knowledge is a recurring aim for Imperial writers in a wide range of genres. Common techniques and tropes of knowledge-ordering are shared between many different authors and genres that seem at first sight to have little in common: historical and geographical composition, miscellanistic writing, mythography and paradoxography, lexicography, philosophy, scientific writing of many different types, technical and didactic writing, and in addition an enormous range of texts that are barely categorisable within any of those modern groupings, for example Pliny's vast and encyclopedic *Natural History*, or Athenaeus' ostentatiously eclectic *Deipnosophistae*. This chapter – focused around a reading of the preface to *On the Order of My Own Books* (*Ord.Lib.Prop.*) – offers an initial approach to the problem of how we should situate Galen's work within that vast, if diffuse, Imperial habit of compilation. It aims to draw out Galen's typicality – the way in which he draws on the common language of knowledge-ordering and contributes to it influentially. It also aims to make clear something of his originality, the way in which he manipulates these shared resources for highly distinctive and original ends.

¹ E.g. see Bowersock 1969: 59–75; Reardon 1971: 45–63; Kollesch 1986; Percy 1993; Brunt 1994: 43–4; von Staden 1995, 1997b.

² The obvious exception is Barton 1994, discussed further below.

To what extent should these compilatory texts of the Roman Empire be viewed as part of a coherent enterprise, to be analysed together?³ And if we find parallels between them – as I will suggest for Galen and some of his non-medical counterparts – what should we take those parallels to signify? Clearly compilatory styles of writing did not originate in the Imperial period. Their beginnings lie much further back, in the Republican scholarship of Varro or the elder Cato, the work of Posidonius and the scholars of Hellenistic Alexandria, and before that in the systematising project of Aristotle; and on those grounds one might feel that there is little to be gained from viewing the Roman Empire as a distinctive context for knowledge compilation. One answer to that objection would be to argue for a new scale to compilatory activity in the Imperial period. Certainly the volume of miscellanistic, scientific, technical writing that survives from this period far outweighs what we have from the Hellenistic world. Alternatively, and perhaps more profitably, one might search for qualitative differences. The obvious starting-point for that search lies in the fact that the compilations of the Roman Empire are marked out perhaps more than anything by their derivativeness, their dependence on rearranging and reassessing the writings of the past – as we shall see further below for Quintilian, some scientific and technical writers from this period claim to be content with confining themselves to this exercise, and draw attention to the weight of authority embodied by the writings of their predecessors. At first sight that tendency seems to detract from the claim that compilatory styles are distinctively Imperial: it is tempting to feel that the pioneering heyday of knowledge-gathering was in the third to first centuries BC, leaving nothing new for those who came afterwards. However, we should not always necessarily take statements of conservatism at face value. Sometimes such statements arise from the pressures of professional self-presentation (on which more in a moment), which impose the need to avoid an impression of excessive and showy innovation.⁴ More importantly, they also ignore the possibility that what we are seeing here is a shift in the very conception of authorship, a move towards the idea that rearranging and reactivating the accumulated knowledge of the past may in itself be a major act of authorial creativity.⁵ On that argument the derivativeness of Imperial knowledge-compilation may be its defining feature and, at least in the eyes of its practitioners, its greatest achievement, rather than a sign of inferior value. It may be linked, too, with Graeco-Roman enthusiasm for reactivation of the past in other

³ For more extended discussion of some of these issues, see König and Whitmarsh 2007a.

⁴ See Lloyd 1991a; Barton 1994: 149–52.

⁵ See Lloyd 1991a: 399; van der Eijk 1999: 2–3; Long 2001: 29–45.

fields, not least in the archaising field of sophistic composition (whose creativity and innovativeness recent scholarship has increasingly begun to recognise). Many compilatory authors are anyway very self-conscious about the newness of their own enterprise, the way in which their accumulation of facts comes to have fresh meaning in the new context of the Roman Empire, despite its dependence on Hellenistic or Republican forms. The work of Pausanias is a case in point: Pausanias on one level shuts out the Roman present, but at the same time he is also self-conscious about the way in which his totalising vision of the Panhellenic past is made possible precisely by the context of Roman rule.⁶

In some cases we can even map out causal links between social and political conditions specific to the early Empire and the development of particular disciplines. Astrology, for example, seems to have grown in strength, particularly in Rome itself, in the late Republic and early Empire. Tamsyn Barton and others have discussed the ways in which this growth may have been stimulated by the move from Republic to Principate – for example through the patronage of Augustus and his successors, or through the increasing prominence for horoscopy in a political context of autocracy where predictions surrounding the ruler took on particular urgency (although she also rightly acknowledges that not all intellectual disciplines can be mapped on to political change in such a sustained way).⁷ Andrew Wallace-Hadrill has made similar arguments in linking the changing valuation of antiquarian knowledge with new pressures of elite self-representation in the late Republic and early Empire.⁸ In addition, Claudia Moatti has argued for seeing projects of knowledge-accumulation in the first century BC as attempts to compensate for the disintegration of the Republic.⁹

How, then, can those insights help us to get to grips with the detailed texture of compilatory writing, and to understand the overlaps we so often find between different compilatory genres in their techniques and tropes of textual organisation and authorial self-presentation? One answer to those questions is that the political context of the Roman Empire often overflows into the metaphors used by knowledge-ordering writers to structure their work. Pliny's *Natural History* represents its own control over the world of knowledge as equivalent to the territorial conquest of the Roman Empire, using metaphors of mapping and the image of the Roman triumph.¹⁰ A whole range of writers address their works to specific emperors, and in

⁶ See Elsner 1992: 19, 1994: 248.

⁷ E.g. see Barton 1994: 33–62.

⁸ Wallace-Hadrill 1997.

⁹ Moatti 1991, 1997.

¹⁰ See Carey 2003; Murphy 2004.

the process entwine their own self-representation with images of Imperial authority, with various degrees of assertiveness and subversiveness.¹¹ In that sense the structures and images of empire are often explicitly and knowingly exploited as models for compilatory composition, within a wide range of genres. Also, the widespread nature of these phenomena is partly a consequence of the fact that so many different areas of knowledge were at least in theory dependent on the Emperor's patronage, in a society where ideals of Imperial omniscience and ubiquity were so prevalent.

Another answer lies in the pressures of professional self-representation that were experienced in common by many different scientific and professional disciplines. The agonistic styles of ancient scientific argument have been by now much documented. Tamsyn Barton has gone furthest towards showing how these styles manifest themselves in similar ways for a range of different disciplines – astrology, physiognomics and medicine – leaving their mark on even the smallest details of textual organisation.¹² She respects the differences between these different areas of knowledge, following a Foucauldian model, which sees particular disciplines as having their own 'regimes of truth', their own particular ways of constructing what is true or authoritative; and acknowledging the importance of rivalry between different disciplines, jostling for position against each other opportunistically. However, she also draws out common threads. She shows, for example, how prevalent is the technique of introducing endless subdivisions in mapping out particular arenas of knowledge, and she links that with the need for scientific practitioners to establish both the complexity of their own field and also their own intricate control over it.¹³

Of course, we should not seek to explain all of these common features as consequences of shared political and social context; some of the similarities between different genres may be due rather to their mutual influence on each other. For example, Galen's use of tropes that we find also in other genres of ancient compilatory writing is partly due to the fact that he, and many of the medical predecessors whose styles of writing he engages with, read – and in Galen's case wrote – very widely outside the field of medicine as we would define it. The boundaries between different areas of knowledge in the ancient world were much more fluid than they are for us; and the claim to be addressing many different genres of work at once is so widespread that it becomes a standard trope in itself. However, the act of signalling engagement with disciplines other than one's own was not always

¹¹ E.g. see A. König 2007 on Frontinus and McEwen 2003 on Vitruvius.

¹² Barton 1994. ¹³ See *ibid.*: esp. 172–4.

simply an unthinking reflection of this atmosphere of intellectual cross-fertilisation. It could also fulfil highly self-serving aims and be parasitic upon highly charged political and cultural images. Most obviously, the pose of polymathy, for Galen and others, was linked with establishment of an authoritative persona as an author, as Tamsyn Barton has shown.¹⁴ Moreover, displays of philosophical and medical eclecticism helped to avoid the accusation of unthinking adherence to a single approach. Claims to be participating in a totalising project of knowledge-gathering were common: for example by addressing a great range of subjects under the banner of overarching ethical aims, as Plutarch does, or, as in Galen's case, by portraying one's own field of expertise as a central part of some overarching philosophical project. Such claims in some cases drew on images of Greek *paideia* as a cosmopolitan, universally empowering, unifying thread for the culture of the Mediterranean world under Roman rule, able to transcend local boundaries and particular specialisms. I should stress that I do not wish to devalue the seriousness of Galen's intellectual aims in drawing attention to the rhetoric by which they are presented (or indeed in my use of the word 'compilatory' to describe his work). Galen's first motives in writing must always have been intellectual and conceptual ones, linked with fierce conviction that his life's work of bringing philosophy and medicine together was essential for any progress in the discipline and that it set him apart from what he views as inferior types of medical practice. My point is rather that the language of totalising or eclectic compilation was language Galen held in common with several other writers, many of whom use it very much more casually and loosely than he does; and moreover that Galen is himself capable of being highly self-conscious and ingenious in rewriting conventional claims of this type for his own ends, as I aim to show in the final section of this chapter for the theme of writing on request.

I am not arguing, then, that the Imperial obsession with compilatory writing was totally new, nor do I want to make claims for any kind of tightly bounded compilatory 'genre'. What I have suggested, however, is that some of the recurring features in the organisational techniques of Imperial knowledge-orderers – as well as being a symptom of the ancient tendency towards intellectual interdisciplinarity – are the result of similar struggles for disciplinary self-promotion that were replayed in many different contexts across the Roman Mediterranean. They also represent responses to ideals of cultural unity and geographical or administrative coherence that are in turn at least obliquely related to the fact of Roman political and territorial

¹⁴ See *ibid.*: esp. 143–7.

dominance. I should stress once again that I do not mean to minimise the enormous differences that could exist between different genres and different disciplines in their activation of those shared resources; in fact, those differences are precisely the main subject of what follows. In some cases the use of shared compilatory rhetoric might not be strongly marked or self-consciously signalled. But in other situations we see writers being highly self-conscious and ostentatious in signalling both their allegiance to common forms of self-presentation and also their own ingenious adaptation of those forms.

WRITING FOR FRIENDS

Following on from those general reflections, my aim here is not to discuss Galen's engagement with the images and ideals of Empire,¹⁵ but instead to look at the micro-level of his engagement with conventions of prefatory self-representation in knowledge-ordering writing in the Roman period. The technical, scientific and miscellanistic writing of the ancient world, I suggest, has its own distinctive poetics of structuration and authorial self-portrayal. Individual authors manipulate common tropes of compilatory self-presentation repeatedly in a great range of different ways, most conspicuously so in their prefaces. The language of those prefaces is often ostentatiously mundane. But when we begin to see these statements as part of a series it soon becomes clear that they are highly literary, self-conscious creations that often pointedly and ingeniously replay and vary the language of their compilatory relatives, and in some cases also remould motifs familiar from poetic dedications. The tropes of prefatory self-presentation develop their own particular momentum specific to knowledge-ordering writing: we see writers on very different subjects following and manipulating inherited conventions in much the same way as poetic prefaces in Greek and Roman literature play with the idea of inspiration by the Muses (with all the different gradations of self-deprecation and self-promotion which that trope can bring with it) or with the ideas of reluctant composition that we find in the conventions of *recusatio*. There has been in recent scholarship an increasing recognition of that literary, formulaic quality of technical compilation,¹⁶ but surprisingly little of that interest has flowed

¹⁵ For that project, see Flemming 2007 and Flemming in this volume.

¹⁶ On prefatory conventions, see Janson 1964; Santini and Scivoletto 1990–2; Alexander 1993: esp. 42–101 on scientific prefaces; Formisano 2001: esp. 28–31; Fögen 2003; on the formulaic, literary qualities of technical literature more generally, and on the interrelations between different genres of technical or compilatory writing, see Nicolet 1995; Meissner 1999, esp. 226–45; Long 2001; Santini

over into study of Galen, and there are still very few sustained attempts to track Galen's interrelations with non-medical styles of composition.¹⁷

There are very many recurring tropes one might focus on in order to track those interrelations. For example, one often-repeated programmatic gesture is the pose of equating one's own discipline with philosophy, along with related strategies for ascribing images of universal significance to one's own work. Those gestures are highly familiar from Galen's writing but they are also spread widely through other kinds of compilatory writing, and often manipulated with a high degree of ingenuity and originality.¹⁸ Related to that is the quasi-Socratic exercise of mapping one's current subject into a hierarchy of other arts.¹⁹ We commonly also find in compilatory writing discussion of earlier writing on the same subject: often that kind of doxography is given sustained attention, rather than simply being confined to the opening of a work, but at other times it is compressed to take on the character of a prefatory motif.²⁰ Other motifs centre more on dramatisation of the author's own attitude to his or her material: that might often involve claims about confidence in one's own abilities, but more often manifests itself in conspicuous modesty (sometimes both together).²¹

2002. On medical writing specifically, see Pigeaud and Pigeaud 2002; van der Eijk 2005a: 29–41, esp. 40–1: '... different styles of discourse, with different stylistic registers, types of argument, appeals to the audience, commonplaces, and suchlike; what they were like in the ancient world deserves to be described, and the attempt should be made to detect patterns, and perhaps systematicity, in them ... The works of Galen provide a particularly promising area of study, for one can hardly imagine a more self-conscious, rhetorical, argumentative, polemicising and manipulating ancient scientific writer than the doctor from Pergamum'.

¹⁷ For exceptions, see Barton 1994 on Galen's self-presentation (and cf. Nutton 1991 on Galen's competitive self-presentation, but without sustained reference to parallels outside Galen's own work); Nutton 1979 discusses the overlaps between Galen's *On Prognosis* and other apologetic writing; Boudon-Millot 2000a: 3–16 discusses the relations between Galen's *Protrepticus* and other protreptic writing; Wilkins 2007 discusses overlaps (and divergences) between Athenaeus and Galen in their techniques of composition, arguing that Athenaeus in particular delights in twisting and departing from familiar patterns of organisation; my aim in what follows is to make a similar argument for Galen, revealing something of the intricacy and ingenuity with which he too reshapes standard patterns of textual organisation and authorial self-promotion for his own purposes.

¹⁸ E.g. see Galen, *The Best Doctor is also a Philosopher*; J. König 2007 on Plutarch's *Quaestiones conviviales* and other examples; French 1994: 123–30 on Strabo's equation of history and geography with Stoic philosophy.

¹⁹ E.g. see Galen's *Protrepticus*, with Boudon-Millot 2000a: 16–35; König 2005: 315–25 on Philostratus' response to that categorisation in his *Gymnasticus*; Percy 1993: 450–2 on Galen's ranking of rhetoric against the other arts.

²⁰ E.g., see van der Eijk 1999a: esp. 2: 'Many ancient philosophers and scientists (as well as historians) regarded themselves as part of a long tradition. They explicitly discussed the value of this tradition, and their own contribution to it, in a prominent part of their own written work, often in the preface'; and see further below on Quintilian and Galen.

²¹ See van der Eijk 2005a: 40 on the alternation between 'rhetoric of modesty' and 'rhetoric of confidence'; cf. Formisano 2001: 28–31 on *dissimulatio* as one of four key poses in the prefaces of late-antique technical writing (the others are *sollertia*, *diligentia* and *utilitas*).

Closely connected again is the (often disingenuous) claim to be composing spontaneously, or to be putting ideas down as they come to mind rather than in any particular order, with the implication that the current work is less polished and less complete than it might be.²²

I want to focus here, however, on just one single motif (although it is a motif which often becomes intertwined with the other motifs just listed), that is, the way in which knowledge-ordering writers so often claim to be writing for friends, and more specifically at the request of friends. I want to track that motif through the prefatory sections of three different texts, the *Encheiridion* (Introduction to Music) of Nicomachus Gerasenus, the *Orator's Education* of Quintilian, and finally Galen's *On the Order of My Own Books* (*Ord.Lib.Prop.*). In following that structure I do not mean to suggest that Galen knows and responds to the work of these predecessors (who were, after all, writing in genres in which Galen never worked extensively himself). I am interested rather in their very different, innovative uses of the same shared argumentative resources; and so in the richness and flexibility of this motif as a vehicle for authorial and disciplinary self-portrayal.

Of course the idea of writing for friends has a long heritage lying behind it.²³ It takes a number of different forms – sometimes epistolary, sometimes organised around more formal rhetorical dedication and sometimes using an unelaborated vocative without specifying exactly what kind of communication we should envisage. The stated reasons for writing also vary. In many cases the texts are said to be gifts for intimate friends; in some cases they involve recording conversations in which the addressee participated, in order to give him or her the pleasure of recalling them at leisure. At other times we see a more pointed sense of status dissonance between author and addressee, for example in dedications to superiors, where expression of the author's motives of friendship has a note of self-deprecation. Elsewhere again we find didactic situations, where it is clear that the author has written to instruct the addressee²⁴ (who may in turn stand in for the general reader via the author's use of the second person, which allows us to feel that we are being personally addressed). In many cases it is not specified clearly which of these three categories a preface fits into; and often a preface may fit more than one, for example in Plutarch's *Sympotic Questions*, which satisfies

²² See J. König 2007 on Plutarch, *QC*, preface to Book 2 (629d); and for parallels see Pollux, *Onomasticon*, preface; Aulus Gellius, *Attic Nights* preface, 3; n. 26 below, on Pliny, *Ep.* 1.1, with Henderson 2002: 21 and Gowers 1993: 271, n. 229; and the section on Nicomachus below.

²³ See Alexander 1993: 27–9, 50–63, 73–5 on the development of conventions of addressing named addressees in historical and scientific prefaces, with many examples (including several from Galen).

²⁴ Works in this category are sometimes addressed to family members, e.g. Varro, *De re rustica* (to his wife), or Macrobius, *Saturnalia* (to his son).

all three criteria: Plutarch states explicitly that the recorded conversations are designed to give the pleasures of remembering to the addressee, Sosius Senecio, but he is also envisaged as a potential pupil in the Greek styles of erudition Plutarch presents, and he was also a politically influential figure, worthy of the honour of the dedication.

We also find subsets of each of the above three categories where the writing of the work is explicitly said to be at the request of the recipient, rather than on the initiative of the author. It is that motif – of writing on request – that I want to concentrate on in what follows. It is common in a wide range of contexts within both Greek and Latin literature.²⁵ However, it recurs especially frequently within writing that has a technical or didactic character, or which is particularly concerned with drawing together a range of previous writings.²⁶ In that sense it is a good example of why we should be more ready to view the relationship between literary and technical

²⁵ For a detailed account of this motif in Latin prose prefaces, with many examples additional to the ones listed below, and with particular emphasis on the further increased popularity of this work in late antique prose writing, see Janson (1964) 116–24 (and cf. 124–49 for examples of a range of other prefatory techniques for expressing the author's modesty). See Griffin 1984 for an exploration of the varieties of commission and compulsion that we can see in Augustus' and Maecenas' relations with the Augustan poets; also Virgil, *Georgics* 3.41, with Mynors 1990 ad loc. for parallels. The motif of writing on request is particularly common in epistolary contexts; e.g. Cicero and his correspondents continually defend themselves against accusations of not writing often enough, and make similar accusations in turn to their correspondents, often with requests for specific pieces of information.

²⁶ Plutarch offers a particularly good point of comparison for Galen in this respect: a great many of his works are dedicated or addressed to a wide range of friends, as part of his strategy of conjuring up a virtual, cosmopolitan philosophical community through his writing; and a significant number of those are represented as responses to requests: e.g. see *Bravery of Women* 242f (where the present treatise is said to be designed as a follow-up to an earlier conversation, supplementing the examples Plutarch presented orally at the time); *On Tranquillity of Mind* 464e; *On Fate* 568b–c, where Plutarch modestly reminds his addressee, Piso, that he has granted the request despite his own scruples about writing; *Precepts of Statescraft* 798b, where Plutarch writes with didactic intent on the request of his young friend Menemachus; and *On the Generation of the Soul in the Timaeus* 1012b, addressed to Plutarch's two sons. Similarly, this is a recurring theme for Seneca: e.g., see *Dial.* 1.1.1 and 3.1.1 and (slightly different) the opening of *Dial.* 9, where Seneca reports his addressee's request and his own answer in dialogue form. See also Varro, *Res Rusticae* 1.1.2, where Varro refers to his wife's request for instruction; and Columella 10 pr. 1 and 11.1.1 (and similar passages at the beginning of Books 2, 4 and 5) where he responds to specific requests from his addressee Silvinus. See also Pliny, *Ep.* 1.1, where Pliny claims to be publishing the current collection of letters on the request of a friend, but insists that they are arranged in no particular order (that theme recurs later in the collection, e.g., *Ep.* 2.10, 5.10 and 9.1, in all of which Pliny in turn urges friends to publish; Pliny also tells the story at 6.15.2 of a public reading where the dedicatee of the work being read out interrupts to object that he never asked for the work to be written, an incident which suggests some self-consciousness about the way in which the motif of writing on request could be used opportunistically). For another typical Greek example, see Apollonius of Perga, *Conics* 1, preface. For examples of requests from members of the Imperial family (which stand in contrast with the preference for more intimate models of literary friendship in Plutarch and Galen), see Oribasius, *Collectiones Medicae* 1.1–2, compiled, so the author tells us, on the request of the Emperor Julian; and Philostratus, *Life of Apollonius* 1.3, where Philostratus explains that he is writing on the request of the Empress Julia Domna; while not blatantly didactic this work does represent itself as having compilatory aims, being, so Philostratus tells us, a condensation of documents written by Apollonius' companion Damis.

writing in the ancient world more as a relationship of continuum and cross-fertilisation than of contrast; here we see a common motif of poetic writing being customised and appropriated so that it becomes *particularly* at home in compilatory styles of composition. One reason for the attraction of this motif for authors concerned with the ordering of knowledge may be that it is particularly well adapted to conveying a sense of modesty and self-deprecation, through the implication that the writer in question is not writing out of self-interest; in that sense it satisfies the requirement for avoidance of blatant self-advertisement within the context of competitive intellectual rivalries. In addition, it helps to justify projects that might otherwise seem useless because of their derivativeness. It may be right to claim, as I suggested above, that rearranging the writings of the past was often viewed as a prestigious project, but many ancient writers (as we shall see for Quintilian below) were nevertheless self-conscious about the fact that it could also be viewed in more negative terms. The obvious question to address to a writer whose energy is dedicated to refashioning the work of his or her predecessors²⁷ is 'Why does this work need to be written at all, when all of the material is already on paper?'; writing on request gives a very specific answer to that question.

Galen, as we shall see, is no exception: his use of the motif of writing on request is particularly frequent. *Ord.Lib.Prop.* is an exceptional work. It is striking above all (along with *On My Own Books* (*Lib.Prop.*) and also some of Galen's other shorter passages of autobibliography, for example the final chapter of *The Art of Medicine* (*Ars.Med.* 37, K1.407–12), for skewing familiar tropes of doxography and compilation of knowledge to self-reflexive ends.²⁸ Galen wrestles with his own *oeuvre*, struggling to impose order on it in much the same way as others wrestle to impose order on whole disciplines. One implication, of course, is the extraordinary bulk and complexity of Galen's own work. This is a kind of self-summarisation on a far greater scale than the tables of contents of Pliny or Aulus Gellius or Scribonius Largus, applied to a whole life's work rather than one single text. In this chapter, however, I want to make a rather different claim, which is that *Ord.Lib.Prop.* is an exceptional work also for what it does with the motif of writing for friends and (closely connected with that) the motif of reluctant composition. Even for Galen, who uses those claims so often and so carefully, this is a remarkable and complex version of one of the most frequently used tropes of compilatory writing.

²⁷ Or even his or her own previous work, as in the case of Pliny, *Ep.* 1.1.

²⁸ See Mansfeld 1994: 117–26.

WRITING FOR FRIENDS IN NICOMACHUS' *ENCHEIRIDION*

First, Nicomachus of Gerasa. Nicomachus was a mathematician and musical theorist, whose works date probably to the late first or early second century AD. We have two of his works surviving in full, his *Introduction to Arithmetic* and his *Encheiridion*, an introductory work on music. He seems also to have written a life of Pythagoras and perhaps also a work on astronomy.²⁹ His writing tends to be very much neglected in modern scholarship on both ancient music and mathematics, and yet in his own day, and in the centuries following, he was one of the most popular of all mathematical writers, and was widely translated and commented on.³⁰ The modern consensus is that his work is derivative, and that the reason for its popularity was simply its usefulness as a school text.³¹ But we should at least consider the possibility that Nicomachus' introductory works would have been seen by his contemporaries as more prestigious than that assumption allows, and that the derivative nature of his writing would not have debarred him from being viewed as a creative compiler of major stature.

The preface to the *Encheiridion* explains that Nicomachus has written the work in response to the request of his female addressee.³² He explains that the work is rushed – dictated spontaneously during a period of travel – and is only a much shorter version of the more comprehensive work he hopes to write in the future.

Even if it is the case that a study of intervals and their relations in the harmonic elements is multi-faceted (πολύχους) and hard to compress (δυσπερίληπτος) completely into a single treatise; and even though I am not able, because of the confusion (ἀκαταστασίας) and hurry (συνεπείξεως) of travelling, to throw myself into the task of giving instruction on these matters with an untroubled (ἀκύμαντῳ) understanding of the issue and sense of purpose, and with the appropriate clarity, which needs leisurely (συχολαίου) and unharassed (ἀπερισπάστου) opportunity

²⁹ See D'Ooge 1926: 79–87. ³⁰ E.g. see Berthier 1978: 9–10; Cuomo 2001: 181.

³¹ E.g. see D'Ooge 1926: 16–45; Netz 1999: 284.

³² Levin 1967: 55 makes the point that the *Encheiridion* is unique amongst surviving musical works in having an epistolary form; and that only one other musical treatise uses the second person, that is the *De Musica* of Aristides Quintilianus, whose work is addressed in much less specific terms to 'most honoured friends'. Nicomachus' choice of a female addressee is also relatively unusual: the precise significance is hard to pin down, but one effect might be to add weight to the self-deprecating strand of Nicomachus' representation of his work by emphasising its amateur status, in other words its positioning outside the quasi-institutionalised processes of succession between (male) master and (male) pupil that we hear of for philosophers (e.g., in the work of Diogenes Laertius) or orators (e.g., in Philostratus' *Lives of the Sophists*) or indeed doctors (e.g., in Galen's repeated mentions of his own relationship with (male) students).

and argumentation, nevertheless it is right for me to spur on my own enthusiasm – since it is you who ask me to do so, excellent and distinguished lady – to set out (ἐκθέσθαι) a bare and spontaneous outline, without preparation or varied demonstrations of my argument.³³

This brief outline, he explains, can then serve as an aide-mémoire for his addressee when she seeks to remember in detail what she has learnt. If the gods are willing, he continues, he will compose a fuller introduction at a time when he has more leisure, and will send it on to her at the first opportunity. Finally he announces his intention of linking the current work with his earlier oral instruction:

I shall begin from the point where I started my instruction when I explained these things to you in person, in order that you can follow more clearly.

The extract shares many conventional details with the second-person prefaces of Galen and others. One of its most striking features is its mixture of modesty and confidence. On the surface this is a self-deprecating start to the text. As so often, the (conventional, but not necessarily for that reason fabricated) motif of writing in response to a request seems to be attractive partly because it helps to downplay any sense of ostentatious self-promotion; but also at the same time because it can serve to emphasise that an author is in demand, and capable of even better writing in future. In that sense modern scholars who have been reluctant to recognise the value of Nicomachus' achievement may have taken his rhetoric of self-deprecation too much at face value. For example, the claim to be writing reluctantly, and not as part of some careful and premeditated plan, draws our attention to the work's unambitious, unelaborated nature. Nicomachus also makes it clear, however, that the brevity of the work has a calculated value for the beginner, not only because it makes the subject clearer, but also more specifically – and almost in Epicurean style – because it will aid memorisation. It is as if Nicomachus is performing in advance the process of mapping out for beginners that Galen undertakes (albeit on a much larger scale) in *Ord.Lib.Prop.* Nicomachus also stresses the powerful didactic potential of his work – in much the same way as Galen – not only by addressing his work in person to a specific beginner, but also more pointedly by representing this written work as an extension of earlier oral instruction. He stresses the way in which this work arises out of one particular didactic situation, a sign of his devoted care for the abstract details

³³ For full translation and commentary on the work, see Levin 1967; for discussion of this passage, see Haase 1982: esp. 120–43.

of knowledge and for his pupils' understanding of them, and he reminds us sporadically of that didactic relationship in the rest of the work by dropping in similar, additional references to his addressee.³⁴ He is also keen to remind us that he is in demand: not only has this work been commissioned, it has also had to be squeezed in between other commitments. Yet his studied vagueness about both the identity of his addressee and the purposes of his travel (presumably we are meant to suspect that he is travelling for professional purposes) at the same time suggests a lack of concern about worldly prestige. Finally, he foregrounds the difficulty of his task, reminding us of the inevitability of incompleteness in any attempt to summarise such an enormous subject, and of the fact that he has had to struggle with his material in order to put it into shape. Those claims function as a much less sustained version of the fascination which Galen and many of his predecessors show with the difficulty of organising and subdividing the medical *technē*.³⁵ The tortuous syntax of the opening sentence – together with the long string of words for confusion or disturbance or lack of calm³⁶ – articulates that impression of struggle with difficult material and difficult circumstances, as well as enhancing the impression of Nicomachus' reluctance to promote himself through writing, reluctance which is finally overcome only four words from the end of the sentence, in the thirteenth line of Teubner's text, when we finally reach the word he chooses to describe the act of writing: ἐκθέσθαι (to 'set out' or 'expound'). In this work Nicomachus makes little mention of his relation to earlier writers (in contrast with his *Introduction to Arithmetic*, where he repeatedly flags his debt to his predecessors),³⁷ but even here, and despite his self-deprecating tone, it is clear that the work of synthesis that this work performs is open to a very high valuation.

WRITING FOR FRIENDS IN QUINTILIAN'S *ORATOR'S EDUCATION*

Quintilian's use of the theme of writing on request follows many of the same paths as Nicomachus', but carries them to a much greater degree of complexity, not least through much more explicit and sustained exploration of the theme of reluctant or hesitant publication. That complexity

³⁴ Other references at 3.9, 11.10, 12.3 and 12.12. ³⁵ E.g. see von Staden 2002b.

³⁶ πολύχους, δυσπερίληπτος, ἀκαταστάσις, συνειπείξως, ἀκύμαντος, σχολαίου, ἀπερισπάστου (the last two refer not to confusion but the opposite – the untroubled leisure that Nicomachus is unable to lay hold of).

³⁷ For a full list of Nicomachus' references to earlier writers in the *Introduction to Arithmetic*, see Berthier 1978: 12–15; cf. *Encheiridion* 9 for a good example from Nicomachus' musical work.

is enhanced by the fact that the work effectively has two prefaces referring to two different requests to publish. The first is addressed to his bookseller, Trypho:

You have been asking me every day and very insistently (*efflagitasti cotidiano convicio*), to embark on publication of the books I had written for my friend Marcellus on oratorical education. I myself felt that they have not yet matured enough. As you know, I spent slightly more than two years in writing them, at a time when I was also much distracted by business matters. That time was spent not so much on composition as on the research required for an almost infinite work and on reading countless numbers of other authors.

The preface ends with Quintilian's final agreement to defer to Trypho's request, 'if they are as much in demand as you claim' (*si tantopere efflagitantur quam tu adfirmas*), and with a final request to Trypho to make sure 'that they come into people's hands in the most carefully corrected state possible'. This preface shares many of the same themes as Nicomachus' opening sentences, and also some of the same reticence about providing details; it adopts a brisk, allusive tone, appropriate to the context of business correspondence. For example, his claim to be distracted from writing by 'business' is vague about the exact nature of those commitments – in much the same way as Nicomachus' reference to his own travelling. Quintilian seems to be reminding us quietly of his professional reputation and of the way in which the text in front of us arises directly from the hands-on experience of teaching, while also doing his best to avoid the impression of ostentation. He also stresses the difficulty of his task in referring to the large amounts of reading it has required. In making that claim he shares some of Nicomachus' modesty, identifying this work as a work of synthesis, but is more explicit about the way in which that synthesis arises from engagement with the writing of the past. Most importantly, perhaps, he conjures up an impression of immense care and immense reluctance, taking those poses much further than Nicomachus does. Where Nicomachus is reluctant to publish a work that he claims was written spontaneously, Quintilian is still unhappy even after many years of revision.³⁸ Quintilian phrases his doubts in terms appropriate to his oratorical topic, worrying that the work has not yet 'matured' enough for publication. That phrase anticipates his meticulous interest in everything that follows in the maturation of the young potential orator from earliest childhood,³⁹ and is in line with his tendency to represent his own text as a body to be moulded in the

³⁸ The conventional nature of Quintilian's claims here need not be incompatible with their accuracy: Kennedy 1969: 37 suggests that there are indeed signs of haste in Book 12.

³⁹ See Kennedy 1969: 39–54.

same way as the body of his imaginary subject.⁴⁰ It is only the vehemence of the requests he receives (vehemence that is enacted through the repetition of *efflagitasti* and *efflagitantur*) which drives him to relent. Here, then, the theme of writing on request is used to stress, much more sustainedly than for Nicomachus, both Quintilian's hesitancy about putting his work forward and at the same time the degree to which his work is publicly valued.

The second preface repeats many of the same points in more extended form, opening up to view some of the complexities which lie beneath the surface of Quintilian's terse statement of them in preface one, while also making it clear (as for Galen in *Ord.Lib.Prop.*) that he has a range of different obligations and audiences to cater for, rather than just a single reader: not just the bookseller Trypho, but also the dedicatee of the work, and addressee of the second preface, Marcellus Vitorius,⁴¹ as well as the many unnamed friends whose requests Quintilian refers to. That preface opens as follows, with a more explicit reminder than the first preface of his personal involvement in teaching:

After finally gaining some free time to devote to my studies – time which I had spent for the last twenty years on educating the young – some friends asked me to compose something on the theory of oratory. For a long time I resisted, because I knew perfectly well that some very distinguished authors in both Greek and Latin had left to posterity many writings on this subject composed with the utmost care. But the reason why I thought it would be easier to gain forgiveness for my refusal was precisely the thing which inflamed them more (*hac accendebantur illi magis*), because they said that it was hard to choose between the divergent and in some instances contradictory beliefs of earlier writers; and for that reason they seemed to be not unjust in imposing upon me the burden (*iniungere laborem*) not necessarily of making new discoveries, but certainly of judging between old ones. (*Inst.* 1.pr.1–2)

Quintilian goes on to explain that he finally consented, and that he then discovered that the task was bigger than expected, partly because he wanted to make sure he was not simply following in the footsteps of others, and partly because he saw at once how important it was to make the innovative step of combining rhetorical instruction with all other branches of learning.⁴² Here

⁴⁰ See Gunderson 2003: 71, citing Winterbottom 1984: 367.

⁴¹ On Marcellus Vitorius, and Quintilian's repeated references to him in later parts of the work, which remind us sporadically of this context of friendship, see Kennedy 1969: 26 and 143, n. 33.

⁴² See Kennedy 1969 on Quintilian's interest in sorting through and judging earlier writings, both here and in later parts of the work, and also on the closely connected pose of avoiding allegiance to any one school of thought (cf. the similar claims made by Galen in *Ord.Lib.Prop.* 1 (K19.52), discussed further below); cf. Fantham 1982 on the balance between derivativeness and innovation in Quintilian's instruction.

the pose of creative synthesiser, which Quintilian hints at in the preface, is stated more clearly. Interestingly Quintilian seems to speak to modern doubts about the originality of Imperial-period knowledge-ordering, acknowledging that the idea of making innovative contributions in such a heavily studied field is counter-intuitive. However, once he has broken through that initial reluctance he soon sees the potential for creating work that has a kind of universal reach, touching on all other disciplines in much the same way as Galen's medical philosophy. The sense of compulsion here – prompted not just by a much more vehement version of the personal request for instruction, which motivates Nicomachus (vehemence which is articulated through the phrase *intungere laborem*, with its implication of forced labour), but also by the state of the discipline itself, which makes his contribution urgent and leaves him almost no choice but to go further once he has embarked on the project – is again a feature that we will see playing a prominent, and in some ways even more distinctive, role for Galen.

The other factor, finally, which spurs Quintilian to accept the challenge is his concern about two books wrongly circulating under his name, taken down by shorthand from one of his lectures and circulated without his knowledge 'by some excellent young men who were too fond of me, and therefore rashly honoured it with publication'. This worry forms a striking parallel with Galen's concerns about inauthentic publication (on which more in a moment). For Quintilian it acts almost as an extension of his points about his friends' requests, as if the young men – who are represented (in contrast with the forgers Galen derides) in friendly terms – are so impatient in waiting for Quintilian to satisfy demands for publication that they take matters into their own hands. Friends, as Quintilian describes them, are hard to refuse. They help him to see, contrary to his original inclination, how urgently needed is his own contribution given the state of the discipline. Initial refusal only increases their eagerness, rather than dampening it (*accendebantur magis*), and in the end they force his hand by taking, on their own initiative, what Quintilian is unwilling to give, so driving him to undertake the task of correction.

RELUCTANT COMPOSITION AND SOCIAL COMMENT IN GALEN'S ON THE ORDER OF MY OWN BOOKS

A great many of Galen's works are addressed to friends. Many of them are stated to have been written at the request of friends.⁴³ There is no particular reason to feel that the context of friendship is ever fabricated or

⁴³ E.g. see Boudon-Millot 1993: 120; Flemming 2002: 101.

exaggerated;⁴⁴ equally, however, the likelihood that real-life relationships lie behind these references should not be taken as a reason to downplay the self-consciousness with which Galen exploits this motif. As is the case for Nicomachus and Quintilian, it is tied up with a pose of avoiding the appearance of competitiveness and self-advertisement, for example in cases where he has to be encouraged by his friends and students to write up arguments against his rivals.⁴⁵ It also functions to remind the reader that the written work is tied to the real-life experience of learning and teaching. Galen's preference for didactic motives is at the expense of other possibilities: he prefers on the whole not to use his prefaces for advertising relations with wealthy and influential patrons.⁴⁶ In many cases he uses an unelaborated vocative without specifying exactly why he has chosen a particular addressee, and thus with only a hint of didactic purpose.⁴⁷ Often, however, he refers back to a specific request from students or medical colleagues to write up the answer he gave in an earlier conversation or lecture.⁴⁸

Often these references to the context of friendship and request are brief. In some works, however, he treats them in more extended fashion. As a preliminary example of the energy Galen devotes to varying and rewriting these motifs, I turn briefly now to his work *On the Therapeutic Method* (*MM*), which anticipates some of the effects I discuss for *Ord.Lib.Prop.* below. The work opens as follows:

While you, my dear Hiero, have frequently asked me to write about the therapeutic method, I for my part was most eager to gratify your wishes (particularly since other colleagues have joined with you subsequently), and desired no less to be of assistance to the best of my ability to those who come after us. None the less, I hesitated, putting the matter off every time for a variety of reasons . . . Chief of all of them was the risk of wasting my time writing, as pretty much no one nowadays cares about the truth; rather they pant after money, political power, and the insatiable enjoyment of pleasures to such an extent that if anyone happened to occupy themselves with some serious branch of knowledge, they would think him quite mad. (*MM* I.1.1–2, K10.1–2)⁴⁹

⁴⁴ E.g. see Nutton 1991: 5–6; for a more sceptical view, see Smith 1979: 98.

⁴⁵ E.g. see *On My Own Books* K19.21–2; cf. Vegetti 1999b: 336–7 on *PHP* 7.1.1 (K5.586).

⁴⁶ See Nutton 1991: 5–6 for the point that very few of Galen's addressees come from the Roman governing elite; and that many of them seem to have been doctors themselves.

⁴⁷ E.g. see *Exercise with the Small Ball* 1 (K5.899).

⁴⁸ E.g. see *Thrasylboulos* 1–2 (K5.806–9); *Affections and Errors of the Soul* 1 (K5.1); cf. *On the Pulse for Beginners* 1 (K8.453) where Galen states that he is writing for Teuthras as a beginner; see also van der Eijk 2005a: 36–7 on the high priority given to oral teaching by Galen and many of his medical counterparts.

⁴⁹ Translation from *MM* is taken from Hankinson 1991b.

The first sentence seems to offer a straightforward instance of response to a request: Galen fulfils personal obligation as well as public service; and in much the same way as Quintilian he draws attention to the fact that he has received a range of requests beyond those of the named addressee, thus enhancing the impression that his work is in demand. Immediately in the second sentence, however, we begin to see that the picture is more complicated, and that Galen's reasons for hesitation are very different from those of Nicomachus or Quintilian, based not on self-deprecation but on worries about the state of society. He proceeds to detail these at great length, criticising the ignorance and frivolity of his contemporaries in vivid terms, in ways which recall similar tirades elsewhere in his work.⁵⁰ He then turns in 1.5 to an attack on Thessalus, who founded Methodism, so Galen claims, in order to exploit the laziness of society. There is a sense here that Galen can hardly hold himself back from these criticisms. In 1.6, for example, he seems to have finished the diatribe:

It was for these reasons, then, that I hesitated to write about the therapeutic method which was inaugurated by the ancients . . . (*MM* 1.1.6, K10.5)

but even before he finishes the sentence he finds himself swept away into further denunciation, repeating many of his earlier criticisms over the course of several paragraphs. Not only that, but it eventually becomes clear that his reasons for not writing are rapidly turning into the main subject of the work, as we watch his complaints against contemporary society metamorphosing into a criticism of contemporary views on healing. That paradox comes into focus in *MM* 1.2.2, where he reverses his earlier expressions of reluctance in closely similar language:

It is for these reasons, then, that I have resolved to say something against his (Thessalus') defamation of his predecessors . . . (*MM* 1.2.2, K10.8)

We have seen a similar paradox for Quintilian, who claims that his explanation of his reluctance to write only prompted the requesters to request more urgently. But for Galen the reversal is much more striking: he moves from a flat refusal to write, based on the belief that it will be a waste of time, to a passionate determination to correct the conditions that he feels make it not worth writing; and he does so, moreover, without mentioning any specific moment of resolution, almost as though he is swept into the change of heart without intending it, and in the course of writing.

⁵⁰ On parallels in other works by Galen, see Hankinson 1991b: 81–4.

Many of these effects are echoed in *Lib.Prop.* and *Ord.Lib.Prop.*, both of which repeat in some form the point about the degenerate state of society as a disincentive for writing. It is the second of those two works I want to focus on in most detail in what follows, although I will also make passing mention to some of the most striking features of *Lib.Prop.* *Ord.Lib.Prop.*, I argue, gives a version of the motifs of writing on request that is highly unusual by the standards we have seen already for other compilatory and didactic writers and even by the standard of Galen's own work, surpassing even *MM* and *Lib.Prop.* in both its ingenuity and its pessimism.

Even the opening sentence of *Ord.Lib.Prop.* stands out immediately for the fact that Galen in some ways downplays the intimacy of the request he records from Eugenianus – even more so than he does for the requests from Hiero in *MM* – making the decision to publish as much a matter of public interest as of personal obligation. Up to a point, the preface of *Lib.Prop.* follows the same path: there, Bassus is said to have ‘advised’ publication rather than requested it, and Galen speaks as if Bassus has done him a favour rather than the other way round. The opening words of *Ord.Lib.Prop.* are even further removed from the normal language of obligation:

You seem to me, Eugenianus, to have done the right thing in asking (καλῶς μοι δοκεῖς . . . ἡξιωκέναι) for a book to be produced (γενέσθαι) explaining the order of the things written by me (τῶν ὑπ' ἐμοῦ γεγραμμένων). (K19.49)

The verb of ‘asking’ hints that Eugenianus may have some personal interest in the production of the book; and the opening words in which Galen expresses approval (καλῶς μοι δοκεῖς) conjure up an impression that Galen is speaking here as Eugenianus’ intellectual superior, as a senior doctor approving his colleague’s reasoning from a position of authority, and so gives the opening a familiar didactic flavour. At the same time, however, the impersonality of the sentence is striking: the verb γενέσθαι (translated above as ‘to be produced’, but more accurately as ‘to come into being’) pointedly downplays Galen’s authorship, as does the phrase τῶν ὑπ' ἐμοῦ γεγραμμένων (‘the things written by me’), as if Galen is trying to depersonalise these developments, avoiding the sense of intimate personal obligation in favour of a more dispassionate tone. Immediately afterwards, in the sentence following, he proclaims the importance of friendship, making the point that many of his works in the past have been written for the benefit of friends, and others for beginning students; but it is hard to avoid the impression that the opening sentence is pointing to a rather different set of motives.

That impersonal opening, I suggest, prepares us for themes that surface more and more explicitly as the preface goes on. At first sight, the opening has a great deal in common with the more conventional approaches of Nicomachus and Quintilian, but it soon becomes clear that there are factors which make it highly unusual. For one thing Galen's resistance to the idea of publication is much more vehement even than Quintilian's. Moreover, his final reasons for overcoming that reluctance are much more surprising and paradoxical, and in some cases actually reverse the tropes we find in Quintilian: the things which drive Quintilian to publish in Galen's case only reinforce and deepen his intransigence, as we shall see in a moment. In the end, for Galen, it is not the demands of friendship which drive him to write – if anything they make him even more wary; instead it takes something much more powerful, that is, an almost despairing sense of obligation to correct the bad reading habits of his society (an even more intense, paradoxical and tortuously articulated version of the sense of obligation and outrage which we have seen already in *MM*). That sense of obligation, I suggest, is prefigured by the dispassionate tone of the opening sentence, with its hints that the text in front of us may be a matter of public service as much as personal exchange.

How exactly, then, does Galen represent his reluctance to write in this work, and how exactly is that reluctance overcome? The reason he gives initially for writing this work is that it is necessary to offer an overview of his earlier writings, given that different texts were written for different purposes; and indeed throughout the treatise he reminds us that different readers should be reading his work in different ways, according to their levels and priorities. That aim of guidance is close to Quintilian's stated aim of guiding his readers through the writing of the past, except that in Galen's case the body of material to be navigated through is his own writing, as if his *oeuvre* has the complexity of a complete intellectual discipline in its own right. The things that hold him back in his writing of *Ord.Lib.Prop.* itself are relatively conventional worries, not stated explicitly. He seems to be concerned, for one thing, about the difficulty of the task and keen to avoid oversimplification – at any rate he tries out several different ways of ordering his material, and stresses the need for each reader to respond according to his or her particular needs.⁵¹ He also seems keen to avoid self-promotion – his inclination to write for friends, instead of for public

⁵¹ See Mansfeld 1994: 120–2 on the way in which the work envisages two different types of reader; and cf. von Staden 2002b for just one example of Galen's habit of endlessly testing out different ways of dividing his material (in that case following but also extending traditional fascination with the question of how the medical *technē* should be divided).

circulation and the anonymity of his opening sentence, discussed above, both reinforce that impression.

However, that theme of reluctance very quickly takes a more surprising turn in the passage immediately following, when Galen starts to talk about the reluctance to write that he used to feel at an earlier stage in his career:

In neither case was it my aim that these should be publicly distributed nor that they should be kept for posterity, since I could see that very few people understood even books which had been written in previous ages. Doctors and philosophers admire other doctors and philosophers without learning what they say and without training in the study of logic, through which they would be capable of distinguishing false arguments from true . . . Having persuaded myself that even if a book were written by the Muses it would not be respected more than the compositions of the most ignorant people, I did not have any desire for any of my writings ever to gain any public reputation. (*Ord.Lib.Prop.* 1, K19.50–51)

Here Galen ingeniously reverses standard claims about being in the debt of the writing of the past. As for Quintilian, it is the great number of previously written works which holds him back; but in contrast with Quintilian, this is not because of his respect for the formidable wisdom these works embody, but instead because of his contempt for the way in which others judge that wisdom. For Quintilian, the high calibre of the accumulated knowledge of the past and the realisation that people have difficulty sorting through it is, in the end, a good reason to write. For Galen, by contrast, that is a reason for pessimism about the whole principle of embodying knowledge in textual form. In that sense this is a much more scathing version of the claim that the writing of the past is a barrier to taking up one's pen. Galen signals his scepticism about the whole industry of knowledge-compilation, acknowledging its prestige but casting doubt on the basis for that prestige. Paradoxically, it is this scepticism, at least on his own account, that allows him to keep his distance from attention-grabbing forms of composition, and that allows him to make such a powerful contribution.

In Quintilian's case, of course, it is not only optimism about his own ability to make a positive difference to the field that spurs him in the end to write, but also a desire to improve on the unrevised lecture notes circulating without his consent. Galen faces similar problems: famously, he complains in *Lib.Prop.* about forgeries and unauthorised texts being sold under his name, and cites that as one of the spurs which drove him to write the work, in order to establish an authentic list of his publications. In *Ord.Lib.Prop.*, however, we hear that this situation has led him to a very different reaction.

Far from spurring him on to publish, the mistreatment of his works has the opposite effect, making him unhappy even about the idea of writing up arguments for friends for fear that they will be published and so exposed to the bad reading habits of society despite his wishes to the contrary:

But because they were distributed widely without my consent, as you know, I was exceedingly reluctant to give my friends any written version of what remained. And I was forced (ἡναγκάσθη) because of this actually to write a work on *The Best Sect*, not the kind which many doctors and philosophers have written in the past where they praise their own sect by name, but give only a hint about the method by which one might constitute the best sect either in medicine or any other field. In that work is stated and demonstrated the claim I made a moment ago, that it is necessary for anyone who wants to be a true judge of sects first to gain an understanding of logic.⁵² (I, K19.51)

Later he repeats the same point:

But when the works I had given to friends began to be circulated amongst many people, I also wrote on compulsion (ἐξ ἀνάγκης) the work on *The Best Sect* . . . (I, K19.52)

Initially, by Galen's own account, the misuse of his work makes him more reluctant to publish, rather than less, increasing his suspicion of the whole publishing industry.⁵³ Where Quintilian writes in order to clarify and improve on the notes circulated without his approval, Galen represents his task of correction as much greater, to correct the logical shortcomings and bad reading habits of his society, which does not have the logical training necessary for independent judgement. It is only then, having broken the barriers of his own reluctance through an awareness of the depth of his obligation, that he is free to launch into a long list of his own writings. Ostensibly his reluctance to write does not apply to *Ord.Lib.Prop.* itself; instead, he is reliving the reluctance from a much earlier stage in his career. But it is nevertheless vividly enacted here through his tortured language, torn between despair and compulsion, and through the repetitive structure of the opening paragraphs. For example, he describes in K19.51 his

⁵² As Galen himself explains, *Opt.Sect.* is itself an unusual version of the 'best sect' genre precisely because it avoids simplistic recommendation of a single approach: see van der Eijk 1999a: 14–15; Runia 1999: 41–2.

⁵³ Admittedly the picture he offers in *Lib.Prop.* is much closer to what we find in Quintilian: concern for his own reputation, and for the accuracy and correct attribution of his own works, are what prompt him to write there. In *Ord.Lib.Prop.* itself, the second mention of how his work has been distributed against his wishes (K19.52) is much closer to that picture than the first; nevertheless even in that second passage of *Ord.Lib.Prop.* Galen avoids mentioning the motive of self-protection explicitly.

reluctance to write and his final breaking of that reluctance – through the phrase ‘I was compelled’ (ἡνάγκάσθην) – before almost immediately getting sucked back into another tirade against the bad reading habits of contemporary society. That in turn leads him to express again his unwillingness to publish, and once again to re-enact his final change of heart with repetition of the same concept – ‘I was compelled’ (ἐξ ἀνάγκης) – more than thirty lines later in K19.52.

Galen feels the need to write, in other words, in order to reverse the situation where he feels appalled by the idea of writing.⁵⁴ In that sense, Galen’s rejection of conventional versions of the knowledge-ordering project, which rely, according to his account, on unthinking adherence to inherited ideas, is precisely the thing which allows his own knowledge-ordering activities to be so effective and so revolutionary. Ultimately, *Ord.Lib.Prop.* – or at least the section of it where Galen recounts the struggles that filled his early career before the writing of *Opt.Sect.* – is not about writing for friends at all. It throws doubt on the very images of friendly composition that fill its opening lines, through Galen’s worries in K19.51–2 about the way in which work can leak into public circulation even from the hands of his close associates, making it clear that friendship on its own may not be enough to justify composition in a society whose illogical reading habits are so deeply and damagingly ingrained. It is only something stronger than the demands of friends – that is, a despairing urge towards social and philosophical reform – that can give a powerful enough compulsion. The ignorance of society both prompts his work and at the same time holds it back, and the work gives a vivid sense of the way in which Galen gets caught between these opposing compulsions. Both of the points he shares most strikingly with Quintilian – on the authority of the writing of the past and on the problems of unauthorised publication – are used not (as for Quintilian) as reasons to publish against initial inclination, but instead as further reasons to hold back, and as a springboard for reflecting, in a much more barbed, pessimistic and paradoxical way, on the degenerate state of society. Aspirations to social reform and tirades against the state of society are not unparalleled in Galen’s other work – the opening of *On Prognosis* is a case in point – but they are striking here for being so ingeniously and paradoxically combined with standard prefatory tropes of authorial self-justification. Also, in this case they help Galen towards one of the most studied and ingenious avoidances of self-advertisement one

⁵⁴ To my mind Mansfeld 1994: 118–19 greatly underemphasises the degree to which Galen stresses his own reluctance.

could imagine. Not only does he avoid the temptation of seeking public approval; he is not even tempted (as so many of his knowledge-ordering counterparts are) by the demands of personal obligation; it is only a higher cause, born from desperation, that can break through his reticence. For Plutarch, in his theorisation of self-praise, one of the factors that can make self-praise acceptable is if the self-praiser has higher moral ends in view;⁵⁵ Galen satisfies that criterion masterfully.

⁵⁵ See Gibson 2003: 239.

CHAPTER 3

Demiurge and Emperor in Galen's world of knowledge

Rebecca Flemming

The Emperor – this world-soul – I saw riding through the city to review his troops. It is indeed a wonderful feeling to see such an individual who, here concentrated into a single point, reaches out over the world and dominates it.

Hegel, 1806

The presence of a wise, powerful, skilful and provident creator figure – alternately labelled ‘nature’ (*phusis*) and ‘demiurge’ (*dēmiourgos*) – is absolutely key to Galen’s thinking, to the medical and philosophical system he constructs and articulates. This figure has, however, not yet been subject to the intensity of scholarly scrutiny that its structural significance demands.¹ This chapter is an attempt to fill in some of these gaps by investigating, in a more focused manner than hitherto, questions about where Galen’s notion of nature and the demiurge comes from and about the work it does in his world of knowledge. I examine the intellectual resources that Galen drew on in fashioning his creator, what is traditional and what original in his formulation, and the identity of both its past precedents and the contemporary features it shares, as well as the motivations that he may have had in producing the particular package that he did.

Two specific, and connected, arguments will be put forward, following on from some more general points about Galen’s demiurge, his notion of nature, as it appears and functions within his medical system and fits into his wider cultural context. First, that the Roman Emperor, in both an abstract and more concrete sense, should be placed alongside the usual suspects when considering the conceptual treasury Galen drew on in formulating his creator. So, as well as the Platonic and Aristotelian traditions which Galen explicitly acknowledges as influential, and his more hidden (but just as well-known) debts to Stoicism, the configuration of power in the Roman Empire

¹ Various aspects of the subject have been covered by e.g. Hankinson 1989, Flemming 2000, Kovačić 2001, Frede 2003 and Jouanna 2003. This still leaves many gaps, however.

made its imprint in this respect. It is not just philosophy but also politics that informed this strand of Galen's thinking. Second, that, in addition to all the other things it does and has been recognised as doing, nature, the demiurge, performs an important epistemological role in Galen's system. This concept, then, does not just emerge out of, but also puts plenty back into, Galen's world of knowledge. Furthermore, these two conclusions are linked. The kind of guarantee of the possibility of knowledge that the demiurge provides is at least homologous, and to some extent actually overlaps, with the more general service the Emperor performs for the Empire: as guarantor of its continued existence and integrity, its function and systematicity as a place to live and think.

The aim is, therefore, not just to offer a case-study for some of the wider explorations of Galen's medical and philosophical positioning to be found elsewhere in this book, an examination of what Galen does, and does not, take from Hippocrates, Plato, Aristotle and the Stoics in a particular, and particularly important, area of his thought. It also offers a different angle on his broader cultural location, with greater emphasis on the social and political factors that influenced him. These are factors that contributed to his basic intellectual constitution, and might also impact on his ideas more specifically, either in terms of his own assumptions and predilections, or those recognised and played to in his audiences, or some kind of combination of the two. Galen was, after all, a man of a certain background and upbringing striving as best he could to win fame (and sufficient fortune) as a physician, the builder and purveyor of an entire medical system, at the centre of the Roman Empire in the late second and early third centuries AD. His origins, his ambitions and the environment in which he pursued them all helped to shape his approach to the medical art, his thought and his writings.

INTRODUCING GALEN'S DEMIURGE

This discussion must begin with a general outline of Galen's creator figure, its character and performance in Galen's surviving works and in his project more broadly. Following Galen's own presentational approach, however, such an outline cannot but align this notion with pre-existing patterns of understanding. For he always sets out his ideas and argues his case, in relation to prior conceptualisations of problems, past authorities and ongoing debates. This is both an expository and locational short-cut, efficiently allowing Galen to demonstrate his mastery over the tradition as he moves beyond it in various ways. Still, the focus in this first section

is more specifically on the entry of the demiurge into, and operation within, Galen's system, career and *oeuvre*, on his own formulations with regard to nature. I then turn to more detailed analysis of intellectual lineages, borrowings and connections, to the particular combination of resources Galen uses, and the contextual as well as conceptual reasons for that package.

FIRST APPEARANCES, DEVELOPMENT AND IMPACT

Any serious engagement with Galen's demiurge, his notion of nature, inevitably focuses on his physiological (and indeed more generally foundational) *magnum opus*, *On the Function of the Parts*. For this is the work in which this creator figure really emerges as a key player in the Galenic system, and has an absolutely starring role; though this move was announced, and much preparatory work was done, in *On the Natural Faculties*, and further support was subsequently offered in *On Anatomical Procedures*. There is also some interplay with the later books of *On the Doctrines of Hippocrates and Plato* and other roughly contemporary treatises such as *On Mixtures*; but, by and large, following the composition of *On the Function of the Parts*, the existence, and workings, of provident nature are just taken for granted in the rest of Galen's *oeuvre* (at least as it survives). This part of the system seems to have been firmly established, and can then be relied upon without further discussion. The matter is revisited in two late works – in *On the Formation of the Foetus* and *On My Own Opinions* – but the existing position is basically reasserted, with some clarification, nuance and circumscription; still nothing really new emerges.²

It should thus be noted that the emergence of Galen's demiurge comes relatively early in his career. He claims, in his bio-bibliography *On My Own Books*, that the first book of *On the Function of the Parts* was composed, alongside the first six of *On the Doctrines of Hippocrates and Plato*, during his initial stay at Rome in the early AD 160s, both commissioned by the intellectual consular, Boethus.³ Despite Boethus' intervening death, while governing Syria, Galen completed these two, large-scale, works not that long after his return to the Imperial capital at the end of that decade.⁴

² *On My Own Opinions* (*Prop.Plac.*) is considered Galen's last work, perhaps written around AD 210; *On the Formation of the Foetus* (*Foet.Form.*) was written probably sometime in the previous decade. See the CMG editions (vols. V 3.2: 37–9 and V 3.3: 42–4 respectively) for more discussion.

³ Galen *Lib.Prop.* 1.17 and 1.6 (139.27–140.5 and 137.22–138.1 Boudon-Millot); and see more generally, Nutton 1973 and the extensive introductory sections in Boudon-Millot 2007a.

⁴ Galen *Lib.Prop.* 3.8 and 1.17 (143.4–10 and 140.3–5 Boudon-Millot); though cf. Galen *AA* 1.1 (II 217 K) for a version of events that has Boethus receive the whole work before his death.

Though he makes no explicit mention of it in the chronological, or career-structured, portion of *On My Own Books*, it makes sense to place the writing of *On the Natural Faculties*, with its repeated reference to what will be demonstrated in his forthcoming text '*On the Function of the Parts*', immediately before, or perhaps contemporary with, the restart of work on that monumental opus.⁵ Indeed, there are reasons to think that this enterprise too might have begun before Galen went back home to Pergamum for a few years in AD 166. For the combination of Aristotelianism and hostility to the great Hellenistic physician Erasistratus, his teachings and followers, in *On the Natural Faculties* is striking. It reads as if it could at least have started life as a tract designed to convince a committed Peripatetic, such as Boethus, that the alleged friend of the Lyceum, Erasistratus, was in fact no such thing, and so too that current-day Erasistrateans, such as Galen's early enemy Martialis, are unworthy of attention: the more philosophically sophisticated should look elsewhere for a physician with the right ideas.⁶

Whatever the precise timing and circumstances of their commencement, the completion of the three books *On the Natural Faculties*, the seventeen *On the Function of the Parts* and the nine *On the Doctrines of Hippocrates and Plato* is to be located in the early AD 170s, following Galen's return to Rome at, he claims, Imperial request.⁷ This period of undemanding Imperial patronage – the Emperor Marcus Aurelius was away defending the integrity of the Roman Empire, and so left Galen to his studies and writing, as well as the care of his young son's health – is one that Galen himself identifies as particularly productive. With his position more assured he could dedicate himself to the collection and organisation of all the notes he had taken from the lectures of previous teachers and from his extensive reading, to some further research and training and, most especially, to literary activities.⁸ This was a time for the composition of large-scale summary, positional products – such as *On the Function of the Parts* and *On the*

⁵ These references appear at Galen *Nat.Fac.* 1.6; 2.4 and 9; 3.11, 13 and 15 (*SM* III 112.4–5; 167.23–5; 201.24–202.1; 233.8–9; 248.25–249.2; and 253.14–15). Some cross-references are later additions in Galen's oeuvre, and these could be, though there is no particular reason to think so.

⁶ Book 2 is almost entirely directed against Erasistratus, and that he is no friend of Aristotle (or Hippocrates) is implicitly the main thrust of 2.2–3, made explicit in 2.4 (*SM* III 165.7–169.5); so too the Erasistrateans. While Martialis is not mentioned by name in *Nat.Fac.*, he could be the 'one of our Erasistrateans' attacked at 2.2 (*SM* III 158.14–15). This would then have followed on from the assault on Martialis' championing of Erasistratean anatomical knowledge contained in Galen's six books on Hippocrates' anatomy and three books on Erasistratus', both written around AD 165 and addressed to Boethus: Galen *Lib.Prop.* 1.7–12 (138.1–139.9 Boudon-Millot: and see also n. 3 on pp. 185–6 for discussion of whether this Martialis is the same as the Martianus mentioned elsewhere in his oeuvre).

⁷ Galen *Lib.Prop.* 1.13 and 3.1 (139.9–13 and 141.17–20 Boudon-Millot).

⁸ Galen *Lib.Prop.* 3.7–9 (142.25–143.12 Boudon-Millot).

Doctrines of Hippocrates and Plato – in which Galen was able to set out in a more complete and comprehensive manner than hitherto, his views on, and understanding of, certain crucial and substantial medical themes. The writing of *On Anatomical Procedures* was rather more protracted, as it massively expanded Galen's existing works on the subject, incorporating further details learnt from his ongoing programme of dissection in order to support, through practical instruction, the account of the construction and working of the human body contained in *On the Function of the Parts*.⁹ Probably begun in the AD 170s, it was not finally finished until the 190s, after Books 12–15 had to be rewritten following the fire in the Temple of Peace.¹⁰

The fundamental conceptualisation that Galen sets out in the *On the Function of the Parts* is that the human being, and indeed the whole world, is a product of reason and design, of a provident creative power working, within material constraints, to optimise its creations. This figure is most frequently called *phusis*, 'nature', but also, and interchangeably, referred to as *dēmiourgos*, 'craftsman', and this latter terminology makes the sense in which this figure stands above humanity, as the craftsman stands above the product of his craft, reasonably clear.¹¹ On the other hand, Galen also uses *phusis* about something, a power or cause, immanent in the human body, and in charge of its basic functions, such as growth and nutrition and everyday somatic maintenance. In *On the Natural Faculties*, this *phusis* also counts among her works (*erga*) the formation of the foetus: coming into being out of the parental seed, nature forms and arranges all the parts of the body, then continues to grow, nourish and sustain them.¹² In this she manifestly exercises a number of the qualities also predicated of the demiurgic *phusis* in *On the Function of the Parts*, most especially *technē*, 'skill' or 'art', and *pronoia*, 'forethought' or 'providence', as she does 'everything for a reason, so that there is nothing ineffective or excessive, nor could anything be better disposed'.¹³ It is for his repeated contravention of this teaching, despite his theoretical allegiance to the Aristotelian dictum

⁹ On the writing of this work and its relation to *UP* see Galen *AA* 1.1, 2.2, and 4.1 (II 215–18, 285–7, and 415–21 K); and e.g. Galen *Lib.Prop.* 3.10–11 (143.12–24 Boudon-Millot).

¹⁰ See Galen *AA* 11.12 (135–6 Simon). The fire was in AD 192.

¹¹ The fact that *phusis* is feminine (and that 'nature' was to become a distinctly gendered concept in some later traditions), and the *dēmiourgos* masculine, seems of absolutely no concern to Galen. It is hard to detect any meaningful pattern in his use of the terms.

¹² Galen *Nat.Fac.* 1.5–6 (*SM* III 107.24–112.23); and 2.3 (*SM* III 161.10–162.11).

¹³ πάντα τινὸς ἕνεκα ποιοῦσαν, ὡς μηδὲν ἀργὸν εἶναι μηδὲ περιττὸν μηδ' ὀλως οὕτως ἔχον, ὡς δύνασθαι βέλτιον ἑτέρως ἔχειν: Galen *Nat.Fac.* 1.6 (*SM* III 112.2–4); and see also e.g. 1.13 and 2.3 (*SM* III 128.22–3 and 159.10–12) for nature as skilled and provident (even 'just').

that 'nature does nothing in vain', that Erasistratus, and his followers, are so roundly attacked in this text.¹⁴

This raises the question, however, of the precise relationship between the concept of nature in *On the Natural Faculties* and in *On the Function of the Parts* and of the mechanism by which the *phusis* of the former somehow replicates the actions, and the design, of the latter. The problem is made more acute since Galen is quite explicit that the immanent nature lacks the rationality of the demiurge, and is not to be confused with the soul (*psuchē*) of the human being as it manages perception, locomotion and thinking.¹⁵ This is, moreover, a question that Galen himself admits he has no answer to as he revisits these issues several decades later in *On the Formation of the Foetus*.¹⁶ He is torn between wanting to align the power that constructs the embryo with the demiurge, with a rational soul or indeed the Platonic world soul on account of the wisdom and reason demonstrated in this construction, along with the skill, and being unable to countenance such a conclusion for a number of practical and theological reasons. Thus he still finds a lower level of control, through a nature confined to the human, compelling in various ways. So, more often than not, he allows a certain slippage between the two, and, in many ways, it is the repetition of *technē* and *pronoia* across the board that is the main point, which is fundamental to the way Galen understands the world and the human being in it, his cosmology and physiology as a seamless whole. Still, it is Galen's creator figure who provides the focus here, and that means foregrounding *On the Function of the Parts*. However, *On the Natural Faculties* definitely forms part of the same intellectual package, and is interesting for the ways it both does, and does not, fit quite perfectly with what was to come.

On the Function of the Parts itself explains, comprehensively, and in considerable detail, Galen's understanding of the structure and functioning of the human body, as something planned and realised by a figure possessed of the key qualities of *pronoia*, 'foresight' or 'providence'; *sophia*, 'wisdom' or 'intelligence'; *technē*, 'skill' or 'art'; *dunamis*, 'power' or 'capability'; and even *dikaioisunē*, 'justice'.¹⁷ This figure – nature or demiurge – must be divine, though more than that Galen cannot say in terms of substance or

¹⁴ Arist. *PA* 658a9; specifically evoked at e.g. *Nat.Fac.* 2.4 (*SM* III 167.12–13).

¹⁵ Nature lacks reason at *Nat.Fac.* 2.3 (*SM* III 162.14–24); and is not soul at 1.1 (*SM* III 101.1–5), though in the following lines Galen says he does not mind if *phusis* is called the vegetative (*phutikē*), and *psuchē* the sensory (*aesthētikē*) soul (in the Aristotelian manner). The distinction being made is the same, it is just a linguistically inferior way of doing so.

¹⁶ Galen *Foet.Form.* 5–6 (*CMG* V 3.3 82.10–106.13).

¹⁷ I list the qualities in the rough order of frequency with which they accompany the creator in the text (singly or in combination); though variation in vocabulary makes precise calculations difficult.

content. His interest lies in the results of these qualities, and in humanity in particular, rather than in what exactly possesses such powers. It is through the construction of human beings themselves that these wider cosmological truths are revealed, since these beings are so manifestly made, in part and whole, for the best (in the circumstances). But the obvious operation of foresight, wisdom, skill and power entails only that there is a qualified operator, and in Galen's world such an operator must be divine; it does not require corporeality or incorporeality, for instance, or dictate character, identity or location in any other way.¹⁸

This understanding, as articulated in *On the Function of the Parts*, had, according to Galen, an immediate and rapidly spreading impact. This was the big book, the *pragmateia* as he always refers to it, which made his reputation, not just as a brilliant practising physician but also as a theorist, the proponent of an entire medical system.¹⁹ Its ideas and teachings were quickly picked up and promoted, both by those doctors who had been trained in 'traditional medicine' (*palaia iatrikē*), and by Peripatetic philosophers, for Aristotle himself had produced a similar work.²⁰ Galen's growing fame led, of course, to jealousy and slander amongst his rivals, and, eventually, his friends broke down his high-minded resistance to engaging his critics. Reluctantly propelled back into the public arena by his companions, Galen then demonstrated, through a combination of oratory and dissection performed over a period of several days, the truth and accuracy of all his statements.²¹ Further anatomical writing and display followed, and it is with this sequence, with his successful defence of all his claims and doctrines, and subsequent advance into and over the territory once held by his enemies (such as the execrable Lycus), that the biographical section that begins *On My Own Books* closes and thematic bibliographic organisation takes over.²² This then seems to be the moment of Galen's real arrival, not just in the Imperial capital, but in the heart of Imperial

¹⁸ It is the limits of Galen's knowledge in these respects that are the focus of *Plac. Prop.* 2 (*CMG V* 3.2 56.12–58.21, with comm. at 132–40) and also *Foet. Form.* 5–6 (*CMG V* 3.3 82.10–106.13).

¹⁹ In his self-promotional treatise, *On Prognosis (Praen.)*, it is his practical brilliance, particularly in prognosis, that marks Galen's first stay at Rome, for example, though he also performed anatomical demonstrations to appreciative elite audiences.

²⁰ Galen *Lib. Prop.* 3.12 (143.24–144.7 Boudon-Millot). The *palaia* here is a term of approbation, and Galen is presumably referring to doctors trained in the Hippocratic tradition, that is, who share a similar background to himself; and it is (as will become increasingly clear) Aristotle's *On the Parts of Animals (PA)* that he means.

²¹ Galen *Lib. Prop.* 3.13–15 (144.7–25 Boudon-Millot).

²² Not that biography vanished from the text at this point but it ceases to function as an organising principle: the chapters now gather together all his works on 'anatomy' or 'prognosis', not all the books written during a particular period of his life. See Boudon-Millot 2007a for discussion of the work's structure.

medical culture. His intellectual position and social standing have now been established, consolidated and confirmed, and systemic elaboration can now occur on this basis.

RHETORIC AND AUTHORITY IN *ON THE FUNCTION OF THE PARTS*

The arguments of *On the Function of the Parts* themselves require more detailed examination in terms of their structure and presentation, as well as content, before moving on to some more specific issues. Right from the outset, it should be stressed, Galen presents this treatise as a conversation with Aristotle, Plato and Hippocrates on the topic of the 'usefulness' (*chreia*) of the parts of the human body. Usefulness, in this context, relates to the soul, for the body is 'the instrument' (*organon*) of the soul, and the human body has been constructed by nature, in whole and parts, as most befits the character of the human soul.²³ So, for example, nature gave to 'intelligent' (*sophos*) and 'godlike' (*theios*) man, hands, not horns or hooves.²⁴ Hands can be put to peaceful and warlike purposes alike, enabling clever humanity to craft and utilise weapons much more potent than the horns so appropriate to the fierce bull, and to take advantage of the hooves provided to the swift, proud horse. The horse can be tamed and ridden by man, who can thus outrun, or overpower, creatures with stronger or faster bodies, but not such godlike souls.

According to Galen, Aristotle had already recognised the key role of the human hands, and correctly contradicted Anaxagoras in asserting that it is because of his great intelligence that man has hands, not because of his hands that he is the most intelligent.²⁵ However, despite having adopted the right fundamental approach to understanding the world and the human body, Aristotle fails to carry through his programme in any detail, missing, or misconstruing, many usefulnesses of many somatic parts. The human fingernails are a good case in point, and one which Galen chooses to illustrate what he has to offer, and how much further old insights can now be taken, under the right management.²⁶ Nor is it just Aristotle who has fallen short in this respect, but also his teacher, the divine Plato, who made shockingly disparaging remarks about the fingernails, alleging that they are mere practice runs, warm-ups, for making actually useful and necessary claws for animals.²⁷ Aristotle's view is a small improvement, since he does

²³ Galen *UP* 1.2 (I 1.13–3.24 Helmreich). ²⁴ Galen *UP* 1.2 (I 2.11–13 Helmreich).

²⁵ Galen *UP* 1.3–4 (I 3.25–6.17 Helmreich); cf. Arist. *PA* 687a7–18 and 20–1.

²⁶ Galen *UP* 1.5–8 (I 6.18–12.7 Helmreich).

²⁷ Plat. *Tim.* 76e. On Plato's divinity and other aspects of Galen's relationship to this key authority see De Lacy 1972.

make the fingernails useful to some extent, claiming them (rather vaguely) as protective, though still in contrast to the more practical utility of animal claws.²⁸ But what, exactly, do the nails offer protection against, Galen asks. Nothing really, he replies. It is, rather, the combination of hard, sharp nails and soft pliable finger tips that gives human hands the greatest scope and flexibility, in gripping, picking up and manipulating the greatest range of different items, from the smallest and hardest to the largest and softest. So protection is just a small part of a much larger, and differently oriented, picture.

Even the man who, Galen claims, came closest to realising the perfect formation, the precise fitness for purpose, of the fingernails, that is, the great Hippocrates himself, did not do enough.²⁹ For the obscurity and concision of his writing means that many fail to comprehend him, and there are gaps in his accounts (though not errors). So, building on the insights of all three – Aristotle, Plato and Hippocrates – and taking into consideration a wider set of discussions on the subject among both physicians and philosophers, Galen provides ‘a complete account of the usefulness of each part’.³⁰ This goes beyond the recognition of purpose and skill in the constitution of humans and other animals, to seeing total optimisation in all the parts. Galen sets himself up as able to explain everything, every aspect of the human body, down to the smallest fingernail and eyelash, as made to perform a particular function, having a particular usefulness in relation to the whole being, and made for the best, ideally suited to perform that function. He is not, he repeatedly asserts, refuting, but rather amending and extending the teachings of his three most favoured ancient authorities.

All this discussion, this positioning, comes in the opening sequence of the treatise, in which Galen has basically assumed skill and purpose in the construction of the parts, a skill and purpose that has not yet found its true interpreter. That is, someone whose exegetical prowess can do full justice to the depth and detail, the totality and finesse, of the artistry manifest in the human being, and whose name might just be Galen. That there is a cosmic entity able and inclined to provide animals with the bodies their souls deserve is simply taken for granted. A provident nature appears in the initial preamble without any kind of introduction or explanation.³¹ Galen does eventually register that the matter has been disputed, that some have argued against purpose and skill, and he will name the leaders of

²⁸ Arist. *PA* 678b22–5. ²⁹ Galen *UP* 1.7 and 8 (I 11.9–20 and 15.13–16 Helmreich).

³⁰ Galen *UP* 1.8 (I 15.16–17 Helmreich): ἅπαντα προτραπέντες γράψαι περὶ τῆς χρείας τῶν μορίων ἐκαστου.

³¹ The first, entirely unheralded, appearance of creative nature is at *UP* 1.2 (I 2.10 Helmreich).

this opposition – Epicurus for the philosophers and Asclepiades for the physicians – before the end of Book 1, but he begins neither by facing up to, nor facing down, that opposition.³² He prefers to sketch out his own approach in relation to those with whom he is, broadly, in agreement, aligning himself with a certain set of authorities whom he will then surpass.

In making no positive arguments for the validity of the pro-design programme itself, and concentrating instead on the ways in which his version of that programme will be better, fuller and more accurate than what has gone before, Galen indicates the presentational method that will be enacted throughout the work. The idea that the construction of the human body, in all its complexity, is due to the application of wisdom and planning will never, abstractly, be proposed or supported. Rather, this proposition will be demonstrated in practice. The strength and comprehensiveness of his account of the human being, the fact that Galen can explicate everything in this manner, that the argument from design works, and, indeed, that the human body is a marvellous thing, will be made, repeatedly, to speak for themselves.

This method can easily be illustrated by returning to the exemplary case of the fingernails, a part of the larger, even more emblematic, human organ, the hand. Hands, as Galen explains, are for gripping, holding and manipulating things, that is their *chreia*, their ‘usefulness’, for the human being, and it is a vital, defining, usefulness for humanity in the Galenic schema.³³ Moreover, everything about the human hand plays its part in that crucial function in an optimal manner. Their multitudinous bones with a myriad of attachments for all the muscles involved, the plentiful supply of nerves and blood vessels, the arrangement of the whole package in a particular pattern of flesh that produces the critical configuration of fingers and thumb (with their flexibility and sensitivity), all the way down to the fingernails themselves – it all works absolutely ideally.³⁴ So, how can you do anything other than marvel at nature’s skill and forethought when confronted with the intricacies of the human hand in all its perfection? Even the fingernails are perfect, Galen explains.³⁵ Their moderate hardness is ideal: nature made them harder than flesh, but softer than bone, so that they can offer the best possible assistance to the hands in doing their job, and help them operate most effectively and robustly. They have been formed rounded, and continually growing in length, in order to replace what is worn away in use for the same reasons. Thus this passage concludes,

³² Galen *UP* 1.21 (I 54.11–16 Helmreich). ³³ Galen *UP* 1.5 (I 6.17–9.9 Helmreich).

³⁴ Galen *UP* 1.11–24 (I 20.25–63.8 Helmreich). ³⁵ Galen *UP* 1.11 (I 20.25–23.6 Helmreich).

‘everything about the fingernails shows the utmost foresight/foreknowledge on the part of *phusis*’.³⁶ It is just not possible, then, to observe this kind of achievement and think of chance and contingency rather than wonderful design, Galen clearly implies.

Occasionally he does attack the opponents of skill and purpose, the ‘chorus’ of chance, more directly over a specific point. So, in discussing the muscular arrangement in the hand, all the bony attachments as they interact with muscles of different size and orientation, Galen takes on what he avers are the views of Epicurus and Asclepiades that some tendons are much thicker than others, not because they are going to have to work harder, so good planning and building has toughened them up, but because they have worked harder.³⁷ Rubbish, retorts Galen, babies are born with these tendons already more developed, before they have seen any real action at all; and on this argument, more assiduous workers would have four arms and legs and the idle one or none. This approach, leaving matters to the operation of chance and contingency, just does not work. If the human body is to be comprehended properly in both a medical and a philosophical sense, as something doctors treat and as a cosmic entity, then realising, recognising and praising the role of the demiurge is central. This basic message is repeated incessantly all through *On the Function of the Parts*: there is absolutely no escape.

Neither *On the Natural Faculties* nor *On Anatomical Procedures* offer anything different in this respect. The former essentially adds to the repetition, taking the same persuasive approach over slightly different territory. Similarly, there is no direct line of argument from dissection to providence in *On Anatomical Procedures*; the support it provides is for the accuracy of the descriptive parts of *On the Function of the Parts*. From Galen’s demonstrable anatomical rectitude (in contrast to others’ errors), presumably the rest is meant to follow; the truth of the whole physiological and cosmological package is thus implied, and occasionally just assumed. The closest Galen in fact comes – in his extant works – to tackling the dispute between design and chance as such, more abstractly, is in the final book of *On the Doctrines of Hippocrates and Plato*; but it turns out not to be that close after all.³⁸ The discussion takes some very specific turns in its engagement with the larger, framing, theme of the nature of similarity and difference: how to recognise real relationships between things, and ideas, as part of

³⁶ Galen *UP* 1.11 (I 23.5–6 Helmreich): οὕτω μὲν εἰς ἄκρον ἦκει προμηθείας τῇ φύσει τὰ κατὰ τοὺς ὄνυχας.

³⁷ Galen *UP* 1.21 (I 54.11–57.26 Helmreich).

³⁸ Galen *PHP* 9.8 (*CMG* V 4.1.2 590.12–596.29).

the conceptual equipment necessary for competent involvement in debates about the way the world works.

EPISTEMOLOGY

The final point to make on Galen's persuasive strategies here, on his failure to demonstrate in any formal or systematic way the skill and providence of nature, is that he clearly assumes that most of his audience will broadly share his world-view in this respect. This is not, actually, where he has to work the hardest, though he may shout the loudest about the wonderful works of the demiurge. The challenge to *On the Function of the Parts* was, precisely, about its descriptive accuracy, which is why *On Anatomical Procedures* is the ultimate supporting text; and Erasistratus is attacked for his fraudulent adherence to design in *On the Natural Faculties*, not his opposition. In this latter text also, Galen demonstrates more clearly than elsewhere why that might be, why Galen might well feel he can count on cosmological consent even if agreement in other areas is more tricky. In its engagement with the Peripatetic community at Rome (and beyond) and also its understated alliance with the most popular philosophical school of the Roman Empire, Stoicism, *On the Natural Faculties* orients itself towards the already sympathetic as well as illustrating, with barely a mention of Plato, the contemporary range of that sympathy.³⁹ Galen just did not need to ground those claims in the same way as he needed to argue for others.

The other side of this coin is that one of the functions of a provident and optimising nature that emerges from these texts is, itself, loosely epistemological. Ungrounded, nature nonetheless acts to provide solidity and security to the system, as she works to make the world fully explicable. *Phusis* enables someone to look at fingernails, or eyelashes, and instead of being baffled, or being thrown back on vague, and rather empty, references to atoms and chance, a fuller, more substantial explanation can be offered. Hands have a usefulness that means they need fingernails and need them formed in a particular way, eyes have a function (sight) that means they require the protection of eyelashes and so on. It is the figure of the creator, of the demiurge, who has delivered on these needs and who thus holds this totalising explanatory matrix together.

So, when Galen describes himself, in the biographical passage that links the medical and philosophical bibliographies of *On My Own Books*, as having been brought to the brink of Pyrrhonian *aporia*, of despair at

³⁹ Galen *Nat.Fac.* 1.12 and 2.4 (*SM* III 120.7–121.16 and 168.2–14); cf. *Foet.Form.* 6.5 (*CMG* V 3 3 92.22–3).

the possibility of knowledge, by the failures of his Stoic and Peripatetic teachers of logic, it was not just his training in geometry and arithmetic that came to his rescue, but also the demiurge.⁴⁰ From the bottom up and top down, respectively, the existence and functionality of both numbers and nature enabled Galen to get a fix on the world. It is, in fact, a place of order in which certainty is possible, as the mathematical disciplines show; and a place that can be understood concretely as well as abstractly, for the wisdom of the creator provides content and substantiates the cosmic order. It is provident nature who, thus, underwrites the know-ability of the universe and guarantees its susceptibility to rational enquiry, since it is, itself, the product of a rational mind (not unlike Galen's, in fact).

ANALYSING GALEN'S DEMIURGE

As promised, this outline of Galen's creator figure, its appearance and development, role and function in Galen's career and *oeuvre*, his system and world-view, has inevitably referred to the various intellectual traditions that contributed to Galen's notion of nature, his demiurge. Most prominent, explicitly laid claim to, are the authorities Hippocrates, Plato and Aristotle; but the Stoics have also been mentioned. In addition, attention has been drawn to the broader social and cultural setting in which Galen operated. This whole package now requires further scrutiny and assessment.

In particular, the question needs to be asked: to what extent is the lineage Galen constructs and advertises for his concepts and understanding an accurate one? Perhaps Stoicism should be elevated from the status of largely unsung ally to that of closest friend in this respect? For the Stoics are acknowledged to be amongst the ranks of the righteous in *On the Natural Faculties*, indeed to have a foremost position amongst those committed to nature's provident design; but this move is made implicitly and little credit is granted. Elsewhere, of course, Galen is deeply hostile to aspects of Stoic doctrine; so, for instance, the agreement between Hippocrates and Plato in *On the Doctrines of Hippocrates and Plato* is essentially forged in opposition to Chrysippus' views on the soul. Still, Galen's *phusis* certainly shares qualities with her Stoic counterpart, and these congruities demand further investigation. Nor need the Porch be the only source of undercover influence; the added emphasis on providence in the Galenic system might owe something to the growing importance of this virtue amongst the Emperor's attributes over the second century AD. *Providentia*, the Latin translation of *pronoia*, becomes a frequently represented personification

⁴⁰ Galen *Lib. Prop.* 14.1–6 (164.2–165.13 Boudon-Millot).

on Imperial coinage from Trajan onwards, and this virtue is also part of a wider contemporary discourse of praise and exhortation addressed to various Emperors.⁴¹

This, more social or political zone of influence on Galen should, moreover, not be seen in conflict, or even contrast, with the more intellectual patterns also outlined; the two are intertwined and inseparable. One of the main arguments of this essay is that Galen should not be seen as operating in some kind of academic bubble, his writings cannot simply be put into dialogue with the writings of the Hippocratic corpus, of Plato and Aristotle, and other philosophers and physicians without reference to the broader historical context. Galen himself, certainly, highlights the purely philosophical perspective and presents his most meaningful engagements as being with past authorities – and the phenomena – against the errors of the present. But that present has him more firmly in its grip than he likes to admit: he is a product of, and an effective operator in, Roman Imperial society and the marks of that empire and society are to be found all over his *oeuvre*.

HIPPOCRATES AND PLATO

Given Galen's general claim to Hippocratic filiation, and that so much of his own claim to authority depends on the authority already vested in the legendary Hippocrates, in his positioning himself as the true heir of literate Greek medicine's founding father, it is hardly surprising that Galen should enlist Hippocrates as a key ally in his cosmology.⁴² Hippocrates also, more broadly, brings the medical tradition to the party. Still, his recruitment to the cause of a provident and skilled creative nature is basically fraudulent, and, though Galen may well not have been the first to make this move, it is quite hard to imagine that he was unaware, at least, that Hippocrates' relationship to his teleological and physiological conceptualisations was quite different from that of Plato and Aristotle.⁴³

⁴¹ On the frequency of representations of the *providentia augusti* (as distinct from the *providentia deorum* that might be involved in Imperial successions and accessions) on Imperial coinage and more general discussion of these Imperial virtues see Noreña 2001. For further discussion, including the dating of the first appearance of *providentia* as an Imperial virtue on the coinage of Trajan, see also Wallace-Hadrill 1981. The wider discourse is in Latin and Greek, switching between *providentia* (e.g. Plin. *Ep.* 10.66 and 77) and *pronoia* (e.g. D. Chr. *Or.* 3.43 and 50 and [Arist.] *Reg.* 14).

⁴² On Galen's relationship with Hippocrates see e.g. Smith 1979; Manetti and Roselli 1994; Flemming 2002.

⁴³ Galen is following an established pattern in recreating Hippocrates in his own image, generally if not necessarily in this particular case (though he counted the Stoicising Hippocratean Aephicianus amongst his teachers: *Ord.Lib.Prop.* 3.10: 98.25–99.1 Boudon-Millot): see e.g. Flemming 2008.

There are two main strands to Galen's recruitment of Hippocrates to this cause. One consists in a set of general and entirely spurious, though often repeated, claims about Hippocrates constantly singing nature's praises, calling her 'provident' (*pronoētikē*) and 'skilled' (*technikē*).⁴⁴ The other involves mobilising a set of Hippocratic sound-bites ruthlessly ripped from their context and re-interpreted to serve Galen's particular purposes. The usual suspects in such cases are the phrases: 'Nature is sufficient in everything for everything', 'Our natures are the physicians of our diseases', and 'Nature, being well-instructed, does what is needed without being taught'.⁴⁵ While none of these statements directly contradicts Galen's notion of *phusis*, none of them exactly supports it either, however hard he pushes them. In between the two is Galen's most popular assertion in respect to Hippocrates' view of nature: that he calls her 'just' (*dikaia*) is the refrain in *On the Function of the Parts* and picked up elsewhere also.⁴⁶ This is presented as a particularly Hippocratic epithet, a roughly synonymous forerunner of 'providence' and 'skill'. Now *dikaia* and *phusis* do appear together in the Hippocratic treatises *Fractures* and *On Joints*, but the meaning of the former is much more on the literal side of balance, proportion and fittingness than Galen implies. Following dislocation or breakage, the instruction is that bones and joints are to be returned to, and then bound into, the balanced position in conformity with nature (*dikaian phusin*); while one Hippocratic passage informs its audience that the head of the thigh-bone alone has a balanced nature (*dikaian phusin*), in (alleged) contrast to the irregularities of the arm bones.⁴⁷

It is very hard to see anything other than conscious distortion and deceit in these claims, in Galen's attempt to align Hippocratic doctrine with his own in these respects. It is the importance of the Hippocratic lineage to him that comes through most strongly. In contrast, his positioning in relation to Plato, who is also, if derivatively, divine, is more genuine and justified. Thus, the term *dēmiourgos* is borrowed from Plato's *Timaeus*, and with it, as already mentioned, Galen is emphasising the transcendent position of his creator figure rather than a more Stoic immanence; or, at least, he allows the demiurge to exercise a transcendent pull on the more neutral, or shared,

⁴⁴ See e.g. Galen *Nat.Fac.* 1.12 (*SM* III 122.6–129.3); *UP* 3.10 and 5.9 (I 172.15–17 and 277.24–7 Helmreich). These virtues are never predicated of nature, in any form, in the Hippocratic corpus, as it survives.

⁴⁵ See e.g. Galen *PHP* 9.8 (*CMGV* 4.1,2 596.21–4) and *Nat.Fac.* 1.13 (*SM* III 128.23–129.3): the citations are from Hp. *De Alim.* 15 and *Epid.* 6.5.1.

⁴⁶ See e.g. Galen *UP* 1.22; 2.16; 5.9; 9.17; 11.2; and 16.1 (I 59.20–2; 116.9–10; 277.24–7; II 50.10–11; 116.10–12; and 376.6–7 Helmreich); and e.g. *Nat.Fac.* 1.13 (*SM* III 128.23–129.3).

⁴⁷ See Hp. *Fract.* 1 and *Art.* 62 for settings; and *Fract.* 37 for the thigh bone.

notion of 'nature', without being entirely decisive.⁴⁸ The other point of distinctly Platonic emphasis in Galen's system is on the constraint of the existing matter with which the demiurge must operate. Galen famously opposes this understanding to Moses' belief that 'everything is possible to god', but this is also a zone of difference with Stoicism: not that the Stoics went anywhere near creation *ex nihilo*, but the relationship between god and matter is of a different character for them.⁴⁹

Less Platonic, however, is Galen's endlessly repeated stress on the 'skill', 'wisdom' and 'providence' of the demiurge. There is intelligence – *nous* and *logos* – involved in Plato's creation, and it was motivated by god's *pronoia* – for producing order from chaos would be an improvement in the state of things and would be a good outcome – but the actual work of fashioning humanity, and other living things, is not done by the demiurge himself, but by his subordinates, the 'young gods', and the motif of *technē* is nowhere invoked.⁵⁰ On the other hand, the Stoics talk of their active principle, god, in its more demiurgic moments, as 'designing (*technikē*) fire', as well as intelligent and provident, and they also refer to it as 'nature'.⁵¹ Moreover, it has to be said that in *On the Doctrines of Hippocrates and Plato* Galen explicitly accepts some aspects of Plato's cosmology only equivocally. He considers the suggested role of the 'young gods', particularly as conduits for the passage of the immortal substance of the soul from the demiurge to humanity, as merely plausible, not proven; indeed he argues that it is presented in this way in the dialogue itself.⁵² Nor, indeed, in his various later musings on these issues, on the character of the divinity involved and the means by which various ends are achieved, particularly in embryonic formation, does Galen show much engagement with current developments within Platonism that had important implications for the position of the demiurge.⁵³ Followers of Plato were certainly amongst his interlocutors, and he records that one of his Platonist teachers suggested that the 'world

⁴⁸ Though the Stoic active principle, or god, could also be described as *dēmiourgos* (e.g. D.L. 7.137–8), or, in Latin, *opifex* (Calcidius *Comm. in Tim.* 293.4); so the transcendent pull is there too.

⁴⁹ See Galen *UP* II.14 (II 158.2–159.19 Helmreich), where Plato leads the sensible Greek contrast with Moses (though Moses' approach is preferable to Epicurus').

⁵⁰ See e.g. Plat. *Tim.* 47e3–48a5: *nous* and *logos*; 30c1: *pronoia*; 41a3–d3: the demiurge's address to the gods he has brought into being.

⁵¹ See e.g. Stob. 1.213, 15–21 for Zeno on 'designing fire'; and also e.g. Aetius 1.7.33 for equivalence with god and intelligence (*nous*); providence is added by e.g. D.L. 7.147 (*pronoētikē*) and Plut. *Mor.* 1050d (*pronoia*). On Stoic nature see also e.g. D.L. 7.148–9. Galen is aware of the Stoic position, see e.g. *MM* 1.2.10 (X 16 K).

⁵² See *PHP* 9.9.1–14 (*CMG* V 4.1.2 596.30–600.30).

⁵³ See e.g. Opsomer 2005a, though I cannot accept his conclusions about Galen (78 n. 143), however tentative. On Galen as not engaging in debate with contemporary (Middle) Platonism, see Chiaradonna, ch. 11 below.

soul' might form the foetus, but Galen cannot agree and in general all his discussions with philosophers on these topics have been fruitless and frustrating.⁵⁴

Galen is thus more interested in a direct relationship with Plato, unmediated by his followers, as is also the case for Hippocrates; and this is a selective relationship too.⁵⁵ Plato may be 'divine' but that does not mean Galen is signed up to the whole programme. He can pick and choose, based on criteria of truth and utility that engagement with Plato's ideas and writings have helped forge, but without providing any kind of overriding force. Galen chooses, then, a strong commitment to a rather loose version of Platonic cosmology: to the clear sense of a 'directed teleology', as R. J. Hankinson calls it, that a rational, transcendent entity, such as the demiurge, provides, and to the constraints of 'necessity' of the material world as an intrinsic part of the package; as for the rest, the details, he was unimpressed and not that bothered.⁵⁶

That it was in these very areas that much current Platonist activity was focused presumably only helped foster his detachment from them and his general feeling of superiority. Still, this should not diminish either the importance of what Galen does take from Plato, here and elsewhere (for example, in the field of psychology), or the significance of his Platonic borrowings in the development of classical medicine more broadly. As Phillip De Lacy has noted, while Plato's had long been a name to conjure with, in a vague and unspecific way, Galen is apparently the first physician to make a serious effort to incorporate some fundamental Platonic doctrines into his vision of the medical art, at both a methodological and conceptual level.⁵⁷ The other point to make here, also following De Lacy, is that Galen's Plato is himself a borrower, dependent on Hippocrates for many of his ideas and inspiration; and it may be that the historical and situational ease of this argument is part of what makes Plato so attractive to this Hippocratic physician.⁵⁸ Certainly this partial merger is a profitable one for Galen in various ways as a medical priority is established in all things, and Plato thus gets to do some of the work for an essentially Hippocratic cause; while Hippocrates moderates the Platonic perspective on the nature of the demiurge.

⁵⁴ This suggestion comes at *Foet. Form.* 6.32 (CMGV 3.3 104.25–106.2) amidst general disparagement of current philosophical discussions on these matters.

⁵⁵ See De Lacy 1972. ⁵⁶ Hankinson 1989: 211–18.

⁵⁷ De Lacy 1972: 39; there are, of course, speculative links made between Plato and Philistion of Locri, in the early days, but nothing of real substance emerges: see e.g. Nutton 2004.

⁵⁸ De Lacy 1972: 36–8.

ARISTOTLE AND THE STOICS

Galen is following a better-trodden path in his engagement with Aristotle, as earlier comments about Erasistratus illustrate. Indeed, the relationship was a reciprocal one, and the Peripatetics had a long-standing involvement with medical ideas and thinking too. So it is no surprise to find that the predominant philosophical allegiance of the first elite audience Galen acquired for his anatomical demonstrations and physiological disquisitions in Rome was Aristotelian. This is the Greek senatorial circle surrounding the philosopher Eudemus, with whom Galen scored an outstanding prognostic success, winning massive bragging rights over his colleagues and rivals soon after his arrival in the imperial city.⁵⁹ This set included not just Boethus but also Paullus, soon to be Urban Prefect; Severus, who would be consul and Marcus Aurelius' son-in-law; Barbarus, the uncle of the emperor Lucius (though his school commitments are not made explicit); and, to some extent, at least before his disruption of a Galenic performance of dissection allegedly caused a loss of favour, Alexander of Damascus.⁶⁰ This last is a philosophical figure over whom much ink has been spilt, but who initially appears as the instructor of Boethus in Peripatetic doctrines, also learned in Platonic matters, and then becomes a public exponent of Aristotelian philosophy at Athens, perhaps the first holder of one of the official philosophical 'chairs' instituted in that city by Marcus Aurelius in AD 176.⁶¹

At least the first book of *On the Function of the Parts* was written for Boethus and directed at this milieu more broadly, and the statements made about Aristotle in that opening sequence, and already alluded to, can be taken as summarising Galen's approach. There are, of course, some specific errors which Galen is keen to correct, and is not shy to point out; but broadly speaking he presents himself as completing the project of *On the*

⁵⁹ Galen's successes with Eudemus are recounted at Galen *Praen.* 2 (CMG V 8.1 74.12–82.17). Galen may have had some prior family connection to Eudemus (76.29).

⁶⁰ All, except Alexander, appear in connection with Eudemus at *Praen.* 2.24–7 (CMG V 8.1 80.15–82.7); and then when Alexander behaves badly, *Praen.* 5.7–21 (94.24–100.6). See commentary in Nutton 1979 for biographical details.

⁶¹ Much discussion has been devoted to the question of identity with Alexander of Aphrodisias – now rejected. Alexander of Damascus' elevation is mentioned at *AA* 1.1 (II 218 K). Such a preferment might well have been assisted by Alexander's connections with this select group of the cultured elite, the scions of some of the great eastern families who were first to enter the Roman senate under Vespasian and Trajan, and who often had Imperial associations: Barbarus, a friend of Herodes Atticus, the man to whom selection of the first holders of the philosophical chairs fell (Phil. VS 2.2), would have been particularly helpful in this respect.

Parts of Animals.⁶² He will, he says, provide a really full description of the usefulness of each and every part, nothing will be omitted or labelled useless; and further anatomical details will be offered about exactly how each organ fulfils its function. That is, moreover, basically what he does do, with, of course, a Platonic demiurge adding direction to Aristotle's teleology and bringing providence into the sublunary world, which does raise the question of how Aristotelian the end result is: is this completion or transformation?

Galen himself gently raises the question in *On Mixtures*, a treatise composed at roughly the same time as *On the Function of the Parts* and as part of the same package of fundamental expositions.⁶³ In general there is quite an Aristotelian flavour to the work, and Galen aims, amongst other things, to rescue the Stagirite from misinterpretation in respect to his views on mixtures (*kraseis*) of hot and wet, a misunderstanding that has him wrongly aligned with the Stoics and the medical followers of Athenaeus of Attaleia in this respect.⁶⁴ On the other hand, Aristotle does seem to come close to committing another error common in this field, that of giving causal priority to the qualities involved in constituting the human body and disregarding 'the skilful (*technikē*) power' that forms the parts to suit the characters of our souls.⁶⁵ So, for example, the eye sockets and mouth are not such large openings because of a particular concentration of heat, and its exhalation, during their construction but because eyes and mouths need to be a certain size in order to fulfil their appropriately designed function. However:

About this, even Aristotle had his doubts: whether there was a more divine origin (*archē*) of these things, and not just formation according to the hot, the cold, the dry and the wet.⁶⁶

Galen does not push the point any further, being content simply to reiterate his own view that the qualities are just the instruments of a distinct formative power.⁶⁷ This fits a wider pattern of presentation, moreover, and he would, of course, be happy to admit a mixture of Platonic and Aristotelian influence on his ideas, to see, indeed, Plato resolving Aristotle's uncertainty here, completing the job, and so putting a more decisive stamp on his own

⁶² In addition to discussion of fingernails, see e.g. *UP* 8.3 (I 494.14–453.9 Helmreich) for sustained criticism of Aristotle's view of the brain.

⁶³ Illberg 1892: 504 and 513, dates the work to AD 169 or shortly thereafter.

⁶⁴ Galen *Temp.* 1.3 (8.28–10.3 Helmreich). ⁶⁵ Galen *Temp.* 2.6 (79.11–23 Helmreich).

⁶⁶ Galen *Temp.* 2.6 (79.23–6 Helmreich): περὶ ταύτης γάρ τοι καὶ ὁ Ἀριστοτέλης ἠπόρησε, μή ποτ' ἄρα θειοτέρας τινὸς ἀρχῆς εἶη καὶ οὐ κατὰ τὸ θερμὸν καὶ ψυχρὸν καὶ ξηρὸν καὶ ὑγρὸν.

⁶⁷ Galen *Temp.* 2.6 (79.26–9 Helmreich).

system. That would not be entirely fair, however, since Galen's debt to the teleological approach of *On the Parts of Animals*, and to Aristotle's methodology and conceptual frame more broadly, is just as crucial as any Platonic reliance, as is made plain in *On Mixtures* as much as anywhere else.⁶⁸

In many respects also, Galen here reflects contemporary Peripatetic trends. There was more providence in the Aristotelianism of the early Empire than there was in Aristotle, and, as Alexander of Damascus illustrates, relations between Platonism and the Peripatetics could be quite cosy at the time.⁶⁹ Not that Galen himself puts it that way – his engagement is, again, directly with Aristotle and his works, and he can be very hostile to present-day Peripatetic philosophers. However, there are definitely signs that he considered his elite Aristotelian audience to be his most important one in the formative part of his career.⁷⁰ What *On Mixtures* also reveals, especially when taken in conjunction with its partner treatise, *On the Elements according to Hippocrates*, is that the competitive angle in his address to this prominent Peripatetic circle went beyond the pseudo-Aristotelian Erasistrateans, such as Martialis, and included also the followers of Athenaeus of Attaleia, a pupil of Posidonius who had established a medical school that incorporated many Stoic doctrines in its version of the medical art, that is the '*pneumatikoi*'.⁷¹ This latter grouping was not just a particular target in his foundational writings on physics but also human physiology, and it is easy to see why this might have been the case. Whatever their precise associations with Aristotle, the *pneumatikoi* certainly had an encompassing and theoretically developed medical system at their disposal, of the kind – the reach and coherence – that Galen aspired to; and the similarity was not just of shape and structure but also some significant substance.⁷² Not only in terms of a shared commitment to continuous matter, as opposed to corpuscles or atoms, for example, but also, presumably, to its skilled and providential organisation in bodies.⁷³

⁶⁸ See Moraux 1985a: 327–44; and on Galen as strongly indebted to Aristotle in this respect (but also highly critical on specific points) see van der Eijk, ch. 12 below.

⁶⁹ See e.g. Sharples 2002: 1–40.

⁷⁰ Compare e.g. Galen *De Sem* 1.3.1–1.4.1 (CMG V 3.1 68.3–70.27) with *Lib.Prop.* 3.12 (143.24–144.2 Boudon-Millot).

⁷¹ Galen *Temp.* 1.3 (8.28–10.3 Helmreich) and *Hipp.Elem.* 6 (CMG V 1.2 102–114). On Athenaeus and the *pneumatikoi* more generally see e.g. Wellmann 1895; Nutton 2004: 202–6.

⁷² So Galen often says, of both Athenaeus and his successor Archigenes, that they have provided the fullest coverage of either a particular topic, or the whole medical art (e.g. *Hipp.Elem.* 6.1): full but mistaken.

⁷³ It has to be said that it is Athenaeus' physics and aetiology that Galen concentrates on, and little pneumatic physiology survives; but it is hard to imagine that Stoic providence did not play a part in it.

This early sense of particularly sharp competition with the *pneumatikoi*, Galen's acute need to differentiate himself from, and surpass, their vision of medicine and all its theoretical underpinnings, in part because it was the closest to his, in form and content, is then one of the contributing factors to Galen's rather odd approach to the Stoics. As has been remarked by various scholars, Galen is rather unfairly negative towards the Stoa, given that he shares so many of its key teachings and ideas.⁷⁴ The occasions on which he acknowledges this affinity are far outnumbered by those on which he passes over it in silence. Similarly, the few words of praise or appreciation he has to offer specific Stoic doctrines or authorities pale into insignificance in comparison to his vociferous hostility to Chrysippus' psychology. Moreover, this attitude is in flat contradiction to his proclaimed policy of intellectual independence. Galen repeatedly asserts that he is no unthinking loyalist or sectarian but he will take, adapt and develop what is true and useful from wherever he finds it: and his ability to gain at least some critical distance from both Plato and Aristotle (though not Hippocrates) indicates that this is not an empty claim, even if it is rather exaggerated in various respects.⁷⁵ He should then, even on his own terms, have been able to do the same with the Stoics, albeit with a different emphasis.

The figure of nature, or the demiurge, illustrates several of these points: it is a good example of strong conceptual affinity obscured, if not denied, without any explanation being offered. In addition to the general convergences of terminology and character between his creator figure and Stoic nature already referred to, the closest roughly contemporary formulations to those of Galen in *On the Function of the Parts* come from the Stoic Epictetus, whose teachings were not just an influence on the emperor Marcus Aurelius but were also known to Galen himself.⁷⁶ The context and emphasis is more ethical than physiological in Epictetus' various discourses on *pronoia*, and he is not interested in explaining the workings of the human body, as Galen is; but he does seem committed to the idea that every bit of the human being has been constructed by nature, well, and for a purpose. So, putting aside the many obvious and large-scale manifestations of nature's providence in the world, and attending to the apparently trivial, he asks what about the hairs on the chin, for instance, which must surely be completely useless?⁷⁷ In fact *phusis* has made very good use of

⁷⁴ See e.g. Manuli 1993: 53–61; and Gill 2007: 88–120.

⁷⁵ See e.g. *Ord.Lib.Prop.* 1.3–4 (88.13–89.7 Boudon-Millot).

⁷⁶ Galen wrote a (lost) work *For Epictetus against Favorinus*, (*Lib.Prop.* 14.21: 168.10–11 Boudon-Millot).

⁷⁷ Arr. *Epict.* 1.16.

them, in the most appropriate manner possible, as the means by which male and female are distinguished. A beard signifies a man, and its lack a woman: there is no need for personal announcement for nature has already done the announcing, and with a sign (the beard) that is itself 'beautiful, becoming, and august (*semnos*)'.⁷⁸ For this, and other achievements, nature deserves piety and praise, hymns to this divinity are the most important and worthwhile that can be sung. Similarly, in *On the Function of the Parts*, Galen counts the differentiation of male and female amongst the usefulnesses of beards.⁷⁹ The more august (*semmoteros*) man requires an august (*semnos*) covering for his chin, whereas women have no such quality and so lack beards; so too men's outdoor life means they need more protection from their hair, on their face as well as head, than women who stay indoors.⁸⁰ Furthermore, hotter men gather more of the thicker residues that nature employs to nourish hairs on their heads than colder women, so having two evacuative routes for this residue is also beneficial. There is more elaboration in Galen as well as a different emphasis and orientation, but the points of convergence, even identity, with a more broadly shared overall framework are clear none the less.

This might be argued to overstate the case somewhat, however, for there are obvious differences as well as similarities between Epictetus and Galen here. The main point for Epictetus, as well as ramming home, again, the fundamental principle of recognition and reverence for providence in all things, a principle that Galen would absolutely agree with, is a moralising one. What nature has made different should stay different, and not be confounded by, for example, shaving the beard.⁸¹ Indeed, this is the general movement in Epictetus, and other Stoics, from providence to the regulation of human conduct, whereas for Galen, though there is a sense of nature as an ethical norm lurking in the background, the movement is primarily from providence to explanation, to the achievement of human understanding. Perhaps then the affinities and congruities are more apparent than real. The sharing of terminology and ideology, the fact that both Epictetus and Galen sing hymns to provident *phusis*, and that both construe beards, at least to some extent in the same way, and use some of the same formulations in doing so, all this hides deeper divergences,

⁷⁸ Arr. *Epict.* 1.16.13: καλὸν . . . καὶ εὐπρεπὲς καὶ σεμνόν.

⁷⁹ Galen *UP* 11.14 (II 153.27–155.16 Helmreich).

⁸⁰ On the significance of the argument being structured this way around, i.e. that women and men have got the bodies they need to fit their social roles and standing, rather than vice versa, see Flemming 2000.

⁸¹ A point made even more explicitly by Epictetus' teacher Musonius Rufus in a passage that also talks about nature's providence in the hair department: *Fr.* 21 (Lutz).

which is perhaps why Galen rejects the alliance offered. Christopher Gill has certainly raised this possibility in relation to the Stoic and Galenic views on designing nature, and he wants, more generally, to explore the real philosophical distance that exists between the two with a view to understanding their vexed relations.⁸² He is right to insist that such matters of substance be put on the agenda, but it is not obvious that Galen is, at a fundamental level, closer in his way of thinking to Plato and Aristotle than he is to the Stoa. So it seems that the search for a general theory of Galenic philosophical relations, for rules that can be applied across the board, continues – or continues to be – chimerical. For it may well be that the rules are those of Galen's shifting and contingent self-interest.

This is, of course, to return to the wider cultural context in which Galen operates, to his early rivalry with the *pneumatikoi* and the resultant downplaying, if not suppression, of the Stoic dimensions to his thought. Indeed, the competitive character of ancient medicine more generally, in tandem with his Hippocratism, may well have helped propel Galen into the embrace of Plato. This gave him something distinctive in his medical milieu, but something recognisably authoritative none the less, and it supported a more imperial creator figure too. A somewhat compromised, or fuzzy, Platonic transcendence combined with the Stoic emphasis on providence gave Galen's demiurge or nature a more purple hue than either possessed independently. 'O great Emperors', says an anonymous leading senator to Marcus Aurelius and Commodus in delivering the first *sententia* in support of their proposal to regulate the financing of spectacles (*munera*) around AD 177, 'thus the harvest of your great foresight (*providentia*) will come forth.'⁸³ The speaker presents this measure as one of real thought and moral principle, deriving from the providence of these rulers, their unwavering concern for 'the health (or security) of the empire', exercised, as this proposal comes, from above, from, indeed, a position infused with divinity.⁸⁴ This inscribed oration picks up on recurrent themes in Imperial representation, praise and exhortation, themes that were as familiar to Galen as anyone, and were part of the discursive fabric of his world.⁸⁵

⁸² Gill 2007: 101.

⁸³ Lines 12–13 of the *Aes Italicense*: *o magni imp[eratores] . . . etiam fructus tantae vestrae providentiae emerget*: see Oliver and Palmer 1955: 320–49 for text and discussion.

⁸⁴ Line 2: . . . *salutem publicam* . . . and the Emperors are described as *sanctissimi* at lines 17–18 (cf. l. 28).

⁸⁵ The particular connection between Imperial *providentia* and the security, the basic well-being, of the Empire in this discourse is emphasised by Charlesworth 1936: 107–32.

This is not, however, to privilege such circumstances, either the realpolitik of a successful medical career in Imperial Rome, or the sedimented ideologies of the Empire above all else; to cast Galen as a philosophical mercenary, unprincipled in his eclecticism, or as an over-determined intellectual product of his times. He clearly did have choices and was genuinely committed to many of his foundational views; but the cultural preconceptions of the imperial Greek elite will have played their part too, and there is always room for manoeuvre within and beyond any framework, not just in terms of emphasis and presentation. Consideration of all these factors and complications might help in answering perhaps the most interesting question to emerge from this discussion, which is: why a demiurge at all? Following Galen the existence of his provident nature has been taken for granted so far, but, in fact, one thing that has been revealed by this analysis is the possibility that it could have been otherwise. Or, at least, there seems to be a lack of compulsion, no necessary cause, so far. This point requires examination in conclusion.

CAUSING GALEN'S DEMIURGE

Galen clearly does not get his notion of nature from the authority he gives greatest priority to, that is Hippocrates. The works of the Hippocratic corpus, both those Galen rated and those he did not, are united in their indifference to such a notion, an indifference that could be more easily used against Galen than in his support, though it is best left to its own devices. While his demiurge does have a genuinely Platonic flavour, it cannot be argued that Plato made him adopt a particular cosmological outlook. The Pergamene's Platonic allegiances were just not of that kind, Galen was quite capable of taking or leaving any one of Plato's key tenets. Indeed, within Platonism itself, for example, the demiurge was rather less crucial than the immortality of the soul. Nor, of course, can Galen be said to have acquired his concept of a skilful and provident nature from the Stoics, despite what he shares with them. At least, the fact that the Stoics had a certain worldview, in itself, did not operate in its favour. None the less, what providence, the designing fire, had to offer Stoicism as a totalising philosophical system might well have had a more positive appeal, as also the common ground between Stoics, Platonists and even Peripatetics, in these areas, a common ground that was increasingly recognised and explored in Galen's day.

On this more general level, then, the attractions of a creator figure, as such, without any particular school clothes on (though they might be added

later), were twofold, both external and internal to Galen's construction of medicine, though with considerable blurring between the two. The main point to make, however, is that this is all about Galen's ambitions, intellectual and personal, for his vision of the medical art and himself, in a particular historical context. Plato and Hippocrates, Aristotle and the Stoics, are part of that context in a whole host of complex ways, but their causal effects are of a rather secondary nature.

So, from within the system, a skilled and providential nature provided a way of tying everything together, explaining it all, being more coherent and comprehensive than anyone else. As Hankinson has argued, if the teleological path is chosen, a full-on, directed teleology such as Galen propounds is probably the most productive and robust option to go for: there are systemic advantages over the non-directed Aristotelian version, for example, in terms of the quantity and quality of explication generated, its reach and security, at least on its own terms.⁸⁶ From the outside, the pull came from the sense that this was an argument that was already won, a point of existing agreement, not just with Stoics, Platonists and Aristotelians, but many outside the boundaries of the philosophically educated too. For Galen to turn this common conception to a medical end, the understanding of the human body, would not be too hard; indeed it had probably already been successfully achieved by the *pneumatikoi* so Galen needed to be less Stoic than them, to accentuate the differences in various ways. This fit with pre-existing assumptions, outlooks and forms of argument would assist in the building of consent to his wider system, and acceptance of the outstanding position it produced for its author: outstanding in the sense of extending and developing that set of ideas, which is how Galen presents himself more broadly.

Now, part of the work already done for this world view, part of its continuing purchase, is political. For the idea that everything is as it is on account of divine providence, that a skilled and optimising force has made the universe and human beings within it, and has made things for the best, is rather reassuring for the social elite whose position, obviously, forms part of this excellent arrangement. The only difference within humanity which has here been explicitly explained as a product of *pronoia*, *sophia*, *technē* and *dikaiosunē*, is that between men and women; but the direction and force of the exposition is, implicitly, a much more general one. The existing social and political order is thus suffused with value and cannot but

⁸⁶ Hankinson 1989.

gain ideological strength from the process. Moreover, there is a figure that creates and maintains that order, who imparts that value, keeps the system together, unified and coherent, in the Empire just as in the cosmos; there is continuity throughout, as Emperor and demiurge combine. That helped Galen on his way, both to putting a provident creator into his system, and in characterising that creator; it all made sense and works on every level.⁸⁷

⁸⁷ This chapter was completed before the publication of *On the Avoidance of Grief* (Boudon – Millot 2007b).

CHAPTER 4

*Shock and awe: the performance dimension of Galen's anatomy demonstrations**

Maud W. Gleason

GALEN'S ANATOMICAL PERFORMANCES

Just as those who describe the nature of a country show its delimiting boundaries first, and then proceed to the elucidation of its component parts, so I too will begin by describing the delimiting boundaries of the thorax.

ὥσπερ οὖν, ὅσοι διηγοῦνται φύσιν χωρίου, τοὺς περιγράφοντας ὅρους αὐτὸ πρότερον δηλώσαντες, ἐξῆς ἐπὶ τὴν ἐκάστου τῶν μερῶν ἀφικνοῦνται διδασκαλίαν, οὕτως καὶ γὰρ τοὺς περιγράφοντας ὅρους τὸν θώρακα προτέρους διηγῆσομαι. (*Anatomical Procedures* Kühn II.652)

When Galen invites us to visualise the thorax as a geographical formation, he represents the body as a world of knowledge, and presents himself as its periegete. The body is a metaphor for the world. Marcus Aurelius, for example, Galen's own emperor, saw the whole order of creation as a body: he compares the selfish and wilful man, who has cut himself off from the unity of nature, to a severed hand or foot or head, lying apart from the rest of the body to which it belongs.¹ The intact body is a powerful symbol of organic unity and, at least to the ancients, the smooth functioning of its component parts under central direction was a figure for the smooth functioning of a hierarchical society.² Conversely, the body that

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¹ *Meditations* 8.34. We may assume that these severed body parts are not mere metaphors, but sights that Marcus, a combat veteran, has actually seen.

² For example, in Seneca's *De clementia* the ruler's relationship to the commonwealth is compared to the mind's relationship to the body. The ruler is source of both order and unity, and controls the commonwealth the way the head controls the limbs (1.3.5–1.4.3).

has been marked or mutilated, whose interior has been exteriorised and laid open to public view, was a symbol of disturbing resonance and enduring fascination.

The explicit purpose of Galen's anatomical dissections was to map the world of knowledge normally hidden within the body and then, by showing how form followed function, to reveal the perfection of nature's design. This chapter, however, does not focus on the scientific and teleological dimensions of his anatomical enterprise, but aims instead to explore its performance dimension.³ Galen's anatomical demonstrations, particularly his vivisections, were culturally complex events, dense with implicit meanings. They fused the intellectual competition of Second Sophistic performance with the violent manipulation of bodies characteristic of Roman spectacle.⁴ Since every disintegrated body draws attention to itself – and to the force that broke its unity apart – where we find disintegrated bodies, we often encounter a discourse about power.

The Roman state marked status distinctions in concrete ways: your place in the hierarchy running from animal to criminal to slave to freedman to freeborn citizen was in some sense defined by who could do what to your body. Only animals could be eaten or sacrificed. Only animals, dead brigands, exposed infants or (conceivably) dead barbarians were far enough outside the human community to be anatomised.⁵ Slaves and criminals could be tattooed.⁶ Slaves as well as animals could be castrated, soldiers as well as slaves and animals could be whipped and made to carry burdens, while both slaves and free men of low status were subject to judicial torture. Concentric circles of bodily vulnerabilities and immunities mapped out the social order. In theory the senators of Rome were immune from all physical coercion, as were equestrians and decurions all over the Empire, but even this privilege was in practice provisional, continuing only so long as the aristocrat in question remained in good standing with

³ For a *catalogue raisonné* of Galen's experiments on animals see Debru 1994. On Galen's vivisections and their place in the history of experimental method see Siegel 1968, Wilkie in Furley and Wilkie 1984: 47–57 and Grmek 1996: 101–22.

⁴ Von Staden (1995 and 1997b) discusses the relationship of Galen's dissection practice to the epideictic rhetorical displays of the Second Sophistic (Cf. Lloyd 1979: 88–98 on debate in the Hippocratics). Like the Sophists, Galen generally refers to his performances as 'exhibitions' (ἐπιδείξεις) rather than 'logical demonstrations' (ἀποδείξεις). Galen, like the Sophists, performs in words, giving a quasi-improvised speech to accompany his dissections. He practises long hours in private (ἰδίῳ) before he performs in public (δημοσίῳ), he creates his intellectual persona as continuator of his classical predecessors (Hippocrates and Plato) and he aims to astonish the crowd.

⁵ Brigands; AA Kühn II.385 (subsequent refs in this format are to Kühn's standard edition), exposed infants; AA K II.386, barbarians; AA K II.385 and *Comp.Med.Gen.* K XIII.604.

⁶ Jones 1987.

the Emperor. Moments that witnessed an individual's slippage between categories (between human and animal⁷ or between senator and criminal, for example) must have been profoundly disturbing, since they would suggest that the attempt to anchor status distinctions in the 'natural' reality of the body was inherently unstable. Mapping status distinctions onto physical differences was problematic. One might like to think that free men looked different from slaves,⁸ but the bodies of slaves and citizens were simply not different *enough* to stabilise social categories. So, on the macro level, the metaphor by which the body authorises the social hierarchy is always threatening to dissolve and, on the micro level, the metaphor by which the unity of the individual body appears to guarantee integrity of personal identity is also unstable. Writers of the Neronian era used images of the disintegrated body to deconstruct Imperial ideology in the context of civil war, or to explore the paradoxes of personal identity and autonomy that tormented aristocrats under Imperial rule.⁹ The intellectuals of Antonine Rome, who inhabited a more orderly but increasingly stratified society, may have found the systematic violence of vivisection 'good to think with' as regards social boundaries and central control.¹⁰

Galen's anatomical displays resonated with the discourse of truth, power and the body that was already present in his culture, and took it far beyond metaphor. In the performance of vivisection, there were multiple forms of coercion: the anatomist compels both the helpless bodies of his subjects and the fascinated gaze of his onlookers. As he forces the animal to submit to his experiment, so he also would compel his audience to agree to its truth-claims. I want to make clear at the outset, however, that in exploring this dimension of Galen's anatomical activities, it is not my intention to offer a reductive explanation of them – to say that his public dissections

⁷ I include animals here because Romans sometimes found it disturbing when animals seemed too much like humans and the boundary between the animal and the human was therefore blurred. The crowd was offended by the all-too-human distress of the elephants that Pompey brought to the arena (Cicero *Ad fam.* 7.1.3; Pliny *N.H.* 8.7.21; Dio 39.38) and Galen was reluctant to use apes for vivisection for fear of provoking a similar reaction (see below). The Roman penalty of *damnatio ad bestias* appears to have been intended to reduce condemned criminals to the animality of their opponents, but occasionally this effect could backfire, offending the audience (*Passio Perpetuae* 20.1–3).

⁸ 'Slave-like appearance' (δουλοπρεπής) is an operative category in physiognomy, for example (Gleason 1995: 35–6). For the visual conventions governing the representation of slaves in Greek art see Himmelmann 1971.

⁹ Most 1992; Bartsch 1997.

¹⁰ Galen's passionate defence of the brain as the true location of the body's 'hegemonic principle' has a loyalist ring to it when read in the context of the Antonine monarchy. The fact that the brain sits in the head, like the Great King sits in an acropolis, may suggest that the brain is the *hēgemonikon*, but only Galen's vivisections can prove that this is true (*PHP* K V.230–1, 120 De Lacy).

were *only* about power, for example.¹¹ Clearly Galen's intellectual interest in anatomy was genuine and did not depend on an audience: alone and unobserved on a desert island, he would have dissected whatever came in on the tide.

Much of Galen's anatomical work, in fact, was done in private or before an intimate audience. It is clear from his manual, *Anatomical Procedures*, that he practised the same dissection over and over again, in private, before performing publicly.¹² He advises his readers¹³ to get their anatomy right and perfect their dissection technique on dead animals before proceeding to demonstrations on live ones. Dissections designed to discover or to illustrate the fine points of structure had to be seen from close up. They rarely required a live animal and offered little to interest a large crowd. Galen's vivisections, on the other hand, were generally designed to address disputed questions of function. To do this, they required living animals, and the results of his interventions were visible from afar. Thus only certain demonstrations were suitable for a large audience, and Galen claims, perhaps tendentiously, that only in the early stages of his career in Rome did he seek professional validation from large-scale public displays.¹⁴ Obtaining anatomical knowledge was both an end in itself and a means to further ends. Galen was interested in both the discovery of Nature's truth and in the competitive display of himself as master of this truth, which he deployed as a strategy of intellectual legitimisation along with logical method and Hippocratic tradition.¹⁵

ANATOMY CONTESTS¹⁶

Public disputation developed as a feature of Greek medicine in the classical period, stimulated presumably by the public debates in the law courts and assemblies of the Greek city states, debates that systematically juxtaposed

¹¹ Hankinson 1994a succinctly conveys the intellectual seriousness of Galen's anatomical enterprise, including his use of vivisection to demonstrate function.

¹² *AA* K II.690. 'In private' (ἰδίᾳ) need not mean 'in solitude': Galen did use trained assistants (ὑπηρέται) *AA* K II.233, 627, 669. On the distinction between private practice and public display as characteristic of Second Sophistic performers, see von Staden 1995: 52–3.

¹³ For indications about the intended audience of *Anatomical Procedures* see Duckworth 1962: 102, 105, 133, 185, 259.

¹⁴ *On My Own Books* (*Lib.Prop.*) K XIX.15 (*SM* 2.96). At the insistence of his friends, however, he returned to the fray (*Lib.Prop.* K XIX.21–2, *SM* 2.101–2).

¹⁵ On the mutually reinforcing function of these last two, see Flemming 2000: 278.

¹⁶ On Galen's involvement in public debate, see Debru 1995; on passages in Galen's writings where he may be trying to minimise his competitiveness, see König J. 2005: 254–74.

competing claims to truth and opposing models of explanation.¹⁷ Under the Roman Empire, however, political debate was largely replaced by political theatre, and the judicial process of *cognitio* dramatised state power more than it featured debate between equals. The premier vehicle for the dramatisation of state power was the body, and that may explain why it was under the Roman Empire that public medical disputation began to include competitive anatomical demonstrations on the bodies of living animals.

Public medical disputation on subjects other than anatomy certainly preceded Galen. Formal medical competitions are attested in the AD 130s as part of the great festival in honour of Asclepius at Ephesus. There were various event categories, though anatomy was not among them.¹⁸ Physicians also gave public lectures on other occasions,¹⁹ and any public lecture in a Greek city might easily, given the presence of rival experts or their partisan proxies, become a competitive debate. Informal medical competitions would not have generated commemorative inscriptions, but may indeed have been quite frequent, requiring only some discoursing physicians and an interested crowd.²⁰ Plutarch refers to doctors trying to show up their rivals and win employment for themselves by performing surgeries or demonstrations (χειρουργοῦντες) in the theatre, as if this were a familiar urban spectacle.²¹ Perhaps we should imagine a scene such as Galen remembered from his student days in Pergamum. During a plague of ‘anthrax’ his teacher Satyrus had ‘anatomised’ the exposed muscles of still-living victims whose skin had been eaten away. Since multiple physicians were present, this event became in effect a competitive demonstration of anatomical competence in which Satyrus’ students, Galen among them, skilfully displayed their anatomical knowledge by directing the plague victims to make

¹⁷ On the role of contestation and debate in Greek medicine of the classical period, see Lloyd 1990: 30–6. On Greek political and legal practices as a stimulus to scientific inquiry in general see Lloyd 1979: 242–55; 1990: 58–67.

¹⁸ Much hinges on the format, still unknown, of the surgery contest (χειρουργία) at Ephesus. Did competing surgeons there demonstrate competence by treating specimen patients, by operating on animals or purely by disputation? On the medical competitions of Ephesus, (*I.Eph.* 1161–9; 4101b) see Keil 1905 and Knibbe 1981–2 no. 146: 136 (dateable to the mid-130s). On the phenomenon of formal medical competitions in general see the discussion in Barton 1994: 147–9 with note 73; Nutton 1995: 7–8.

¹⁹ A doctor from Cyzicus, for example, was invited to visit Istros to give public lectures, on the strength of which he was then appointed public physician. The inscription that survives in his honour does not indicate that any professional rivals gave competing presentations, however (*REG* 71 [1958] 336: 281).

²⁰ The primary location for medical debate was the bedside itself, e.g. *On Prognosis (Praen.)* K XIV *passim*, *De methodo medendi (MM)* K X.909–16; Gellius *N.A.* XVIII.10.

²¹ *Mor.* 71α καλλωπιζόμενον πρὸς τοὺς παρόντας, ὥσπερ οἱ χειρουργοῦντες ἐν τοῖς θεάτροις ἱατροὶ πρὸς ἐργολαβίαν.

particular movements that revealed structure and function, while inept competitors, in their blind ignorance, distressed the victims in vain.²² In general, Galen's wide-ranging medical education made him familiar with contemporary forms of intellectual combat; when studying at Smyrna in the 150s he spent two whole days taking notes at a methodological debate between his teacher Pelops and an Empiricist rival.²³ On this occasion, and probably on many others, as he meticulously transcribed argument and counter-argument, he was absorbing techniques of disputation that he later put to use in his own debates with rival anatomists.

It is not clear when anatomical questions first became a popular subject for public medical debate, or when vivisection of animals began to enliven the programme. For a brief period it appears that vivisections of human prisoners took place in Hellenistic Alexandria, but it is not clear that these were structured competitively or performed before a general audience.²⁴ Galen knew the written work of the Hellenistic anatomists, or at least Erasistratus, but his polemical habits of quotation obscure his debts to his predecessor.²⁵ At all events, it is generally agreed that anatomical experimentation in Alexandria lapsed after a brief efflorescence. Interest in anatomy revived in the late first century AD; Rufus of Ephesus recommended learning about human anatomy from the dissection of animals. There is no indication, however, that he vivisected them.²⁶ Marinus taught in Alexandria in the early second century AD, and Galen gives him credit for reviving anatomical study.²⁷ Galen's relationship with Marinus was entirely posthumous, but complicated. He summarised Marinus' immense corpus

²² *AA* K II.224–5. The Greek text gives the initiative to Satyrus: Σατύρου ἀνατέμνοντος. The Arabic translation uses plurals, attributing the initiative to Galen and Satyrus' other students: Grmek and Gourevitch: 1994: 1519 n. 104 citing textual improvements from the Arabic in Garofalo 1986, 2000: 11. The entire scenario shows how bedside disputation might slide into opportunistic vivisection.

²³ *On My Own Books* (*Lib. Prop.*) K XIX.16–17, *SM* 2.97.

²⁴ On the brief efflorescence of human dissection (and vivisection of convicts) in Alexandria under the early Ptolemies, the product of a unique historical moment, see von Staden 1989, 1992a; Flemming 2003; Nutton 2004: 128–39.

²⁵ For example, he mentions Erasistratus' observations about what happens to an ox when its neck is cut at the first vertebra only to say that he was mistaken (*PHP* K V.446). It is not clear from this passage, incidentally, whether Erasistratus was reporting on a vivisection experiment of his own or just on what he observed during animal sacrifice.

²⁶ *On the Names of the Parts of the Body* 9–10, 127. Some scholars identify Rufus of Ephesus with a mid-first-century AD pharmacologist, though Rufus was a common name (Nutton 2004: 209). Marinus produced an anatomy treatise in twenty books and numerous disciples (on whom see Grmek and Gourevitch 1994; Nutton 2004: 214).

²⁷ Galen was of the opinion that no anatomical discoveries of importance had been made between Herophilus and Eudemus in the Hellenistic period and Marinus in the early second century AD (*On Hippocrates' 'Nature of Man' (HNH)* K XVI.136). Marinus resumed the practice of dissecting apes and other animals *Hipp.Epid.* CMG V.10.1, 312.

of anatomical writings in four books,²⁸ but also claims to have refuted Marinus' anatomical errors 'on repeated occasions in the city of Rome, in distinguished company in the presence of all the notable surgeons'.²⁹ It is not clear, however, whether Marinus performed vivisection experiments. His pupil Quintus, and Quintus' pupil Lycus, were still remembered as experts in anatomy when Galen arrived in Rome (AD 162).³⁰ Quintus left no writings, and must have established his reputation as an anatomist by other means, presumably by his public performances, which included demonstrations on the testicles of a living goat.³¹ Lycus was a prolific author whose treatise on anatomy included chapters on 'the lung in life' as well as on 'the lung in death'. This suggests that Lycus too used living animals in some of his anatomical demonstrations.³² The fact that Galen wrote multiple books detailing Lycus' shortcomings does not preclude the possibility that Galen imitated his methods.³³

Whatever Galen's debt to his deceased predecessors, he relished the opportunity to discredit their work. The availability of detailed anatomical treatises invited refutation: Galen wrote counter-treatises critiquing the writings of Marinus and Lycus. He also refuted their claims in the format of a lecture-commentary, which afforded the possibility of hands-on demonstration.³⁴ In the context of hands-on demonstration, dissection

²⁸ Galen composed a summary in four books of Marinus' twenty volumes on anatomy. Only Marinus' chapter headings survive in *Lib.Prop.* K XIX.25, but, unlike the chapter headings of Lycus, they do not indicate that he demonstrated on living animals. Of the anatomical work of Numesianus, we know even less, since his writings, despite Galen's best efforts, were kept secret by his son (*AA* XIV, 231 Simon, 183–4 Duckworth).

²⁹ *AA* XIV (231 Simon, 183 Duckworth).

³⁰ Quintus 'had become widely known, and had gained a not inconsiderable reputation through anatomical perspicacity. But he composed no writings on anatomy such as Martialis did ...' *AA* XIV (231 Simon, 183 Duckworth). Galen refers to Quintus as ἀνὴρ ἀνατομικώτατος (*Lib.Prop.* K XIX.22). On Quintus, teacher of Galen's teachers, see Grmek and Gourevitch 1994: 1503–13. On the authoritative reputation in Rome of Lycus' anatomical works, see *Lib.Prop.* 22.

³¹ *AA* XII, 155 Simon, 124 Duckworth.

³² The titles of the individual books of Lycus' *Anatomy* are preserved in an Arabic translation of Galen's *Lib.Prop.* (Boudon-Millot 2002). This source also shows that Lycus practised, or at least described, the dissection of human cadavers, since his sixth book describes 'the dissection of a uterus of a dead woman in which there is a foetus'. Lycus' treatise also contained books that treated the anatomy of 'the dead child' and 'the living child'. From this it appears possible that Lycus practised, or at least described, the vivisection of humans (perhaps exposed infants, though the Greek word for 'child' could also mean 'slave').

³³ *What Lycus Did Not Know About Anatomy* in four books and *Differences With Lycus on Anatomy* in two (*Lib.Prop.* K XIX.22; Boudon-Millot 2002: 17, cf. *Ord.Lib.Prop.* K XIX.57–8; *SM* 2.87). Apparently Lycus was still alive when Galen was a student; Galen explains that he did not seek him out because he had, in his lifetime, 'no great reputation amongst the Greeks' (*AA* XIV, 232 Simon, 184 Duckworth). Galen says that Lycus' anatomical works were not merely descriptive, but included 'logical inquiries' (*Musc.Diss.* K XVIIIB.927).

³⁴ *Lib.Prop.* K XIX.21–2 (*SM* 2.101–2), on which see more below.

could perhaps convince a small audience of a point about structure, but vivisection could clinch an argument about function for a larger audience, and in a much more forceful way. In some cases, Galen may have merely intensified the competitive dynamics of vivisection practices that others had pioneered. Some vivisection procedures, on the other hand, were apparently original to him. For example, he implies that he was the first to perform vivisection demonstrations of the voice (a stunt that became his signature crowd-pleaser); he says that his teachers did not know that the pig, with its loud voice, was the animal most suitable, 'since they had never tried this experiment'.³⁵ The story of how Galen earned his first job illustrates the competitive advantage that innovative use of vivisection could confer on an ambitious practitioner.

Galen, despite his reverence for Hippocrates, was a child of his own time. He cut his professional teeth treating the gladiators of Pergamum.³⁶ This job was a patronage appointment in the gift of the high priest of the Imperial cult.³⁷ To win it, Galen attempted (by his own report) something particularly audacious. At a public gathering, in the presence of the high priest and the chief physicians of the city, he sliced open a living ape. He eviscerated it, then challenged the other physicians to replace the intestines and sew the ape back up again. No one dared. So he did it himself. Then, as an encore, he deliberately severed several large veins and challenged the senior physicians present to stop the haemorrhage. As the animal exsanguinated, they dithered. So again, Galen dextrously accomplished the task that he had challenged his rivals to perform. The high priest declared Galen the winner and awarded the job to him.³⁸

Galen's flair for competitive anatomy did not require the institutional structure of a formalised competition: he could create a *de facto* vivisection contest by stepping in to finish a surgery that someone less competent had begun. Summoned to the bedside of a slave, for example, whose chest wound had failed to heal despite several operations, Galen put his rivals to shame by daringly excising the sternum, exposing the heart and curing

³⁵ τοῦτο δ'εἰκότως ἡγνοεῖτο τοῖς διδασκάλοις ἡμῶν, ὥς ἂν μὴδὲ πώποτε πειραθεῖσι τῆς εἰρημένης ἀνατομῆς AA K II.663.

³⁶ On this phase of Galen's professional life, see *Comp. Med. Gen.* K XIII.599–603 and Scarborough 1971. In contrast to the usual patient population of the society doctor, wounded gladiators must have afforded Galen many opportunities to observe the effects of cutting on the living body (cf. Celsus *Proem.* 43).

³⁷ For the question of whether a local or a provincial priesthood was involved, see Schlange-Schöningen 2003: 106–16. For the pattern of a physician arriving in a new city, giving lectures and winning appointment as a public physician, see *REG* 71 (1958) 281–2 (Istros).

³⁸ *On Recognising the Best Physician* (*Opt. Med. Cogn.*) *CMG Suppl. Or.* Iv: 105, trans. Iskandar 1988.

the patient.³⁹ Elsewhere Galen describes two surgeons who inadvertently rendered their patients mute. The first, while trying to resect a swollen gland in the neck, tore at the tissue with his fingernails and severed the laryngeal nerve. The second rendered his patient half mute by severing the recurrent nerve on one side. Here we see the amazement that seems integral to both surgeries and experiments regarding the voice – only on this occasion it is Galen who, by explaining the function of the vocal nerves, puts a stop to the amazement generated by an incompetent rival: ‘And indeed it seemed amazing to everyone, but when I had shown them the vocal nerves, their amazement ceased.’⁴⁰ Thus what began as another doctor’s bungled surgical procedure became serendipitously for Galen a vivisection opportunity.

In another tale of accidental vivisection, Galen’s travelling companion, who was not himself a physician, lost his temper when his slaves lost his bags. Impulsively, he smacked the heads of the offending slaves with the edge of a large knife.⁴¹ Dismayed by the resultant haemorrhage, he abruptly decamped, leaving Galen to play the competent anatomist who can control the flow of blood. When next they met, the assailant disrobed, handed Galen a strap and begged Galen on his knees to whip him for what his ‘damned temper’ had made him do. Galen laughed at his repeated protestations, and gave him a tongue-lashing instead.⁴² Here Galen signals his dominance by his laughter while his inept ‘rival’ signals his submission by begging for a beating, but in this contest blows are transmuted into words as Galen forces the ‘loser’ to listen to a speech. This story from everyday life recapitulates the complex alchemy of the anatomical contest in which blows become words as the anatomist cuts and speaks, while words substitute for blows as he thrashes his rivals.⁴³

‘Truth or dare’, when you played with Galen, was a high-stakes game. Let us suppose you are unfortunate enough to be one of Galen’s rivals. In one of your recent lectures you have rashly speculated about the consequences of ligating the large blood vessel that runs between the heart and

³⁹ *AA K II.631–2; De Placitis Hippocratis et Platonis (PHP) CMG V.4.1.2, 74.*

⁴⁰ θαυμαστόν ἔδοκει πᾶσιν . . . ἐπαύσαντο θαυμάζοντες *Loc. Aff. K VIII.55*. Because the Greek word *país* is ambiguous, it is not clear whether the unfortunate patients were children or slaves.

⁴¹ μάχαιρα, a term generally used by Galen to describe anatomical or surgical instruments (*K V.19.3*).

⁴² *On the Passions and Errors of the Soul (Aff. Dig. K V.18–20; SM 1.14–15)*. Perhaps, by modern standards of psychopathology, Galen’s companion was a sado-masochist, but historically this incident has to be explained in terms of the larger cultural matrix of violence and humiliation in Galen’s milieu, about which we still know too little.

⁴³ Vegetti 1996: 57 and *passim* remarks on the homology of pen and scalpel, dissection and writing.

the lungs.⁴⁴ Your remarks were theoretical, but Galen seizes the opportunity to *force* you to make a practical demonstration (he uses the verb βιάζεσθαι).⁴⁵ Under pressure from Galen you attempt to expose the heart of the animal he thrusts forward, but, before you can attempt to ligate the blood vessel in question, you perforate the pleural cavity and the animal most embarrassingly expires. You try to explain that it is next to impossible to expose the heart without perforating the pleural membrane, and that that is why you have not hitherto performed this demonstration. But Galen is relentless. He seizes another animal. Effortlessly, he slits open the chest without puncturing any membranes. Then he challenges you again to ligate the vessel in question. Under pressure (βιάζεσθαι) you try again. You perforate the pleural membrane and the second animal expires. You suggest that it may be time to stop. But Galen seizes a third animal, slits open its sternum and forces you to try again (ἀναγκάζεσθαι) until, thoroughly humiliated, you are ‘put to shame for foolish boasting’.⁴⁶

The language of compulsion here is worth noting. Compulsion is present on multiple levels. Physically, Galen is forcing his rivals to perform a concrete demonstration of their own truth-claims. This demonstration takes the form of a violent assault on a living body. This assault creates a disruption of natural processes that demonstrates the truth of Galen’s hypotheses about how these processes work. Such truths, revealed by force, have themselves a force – they compel assent. Logically, Galen was performing a demonstration, a procedure he sought to augment with the coercive force of mathematical deduction.⁴⁷ As he says in another treatise, using βιάζεται again, ‘The phenomenon itself, through dissection, *forces* even those who maintain the opposite to concede, unwillingly, the truth.’⁴⁸

One way of looking at this encounter is to see it as a form of truth-contest in which a body *in extremis* is manipulated to provide conclusive evidence.⁴⁹ In this respect a truth-contest is both a trial by ordeal and a form of wager. A public audience watches the manipulation of bodies by competing experts and decides the winner. We see the wager element clearly in a story Galen tells about some of his young partisans (presumably

⁴⁴ It seems to me that the blood vessel in question, ‘the great artery, or, as some call it, the venous artery running into the lungs’, is the pulmonary artery, which alone of all the arteries carries dark unoxygenated blood like the veins. Singer 1956 and Garofalo 1991 ad loc., however, think he means the pulmonary vein (which, when approaching through the sternum, would be behind the heart and thus out of reach).

⁴⁵ AA K II.636 ‘and if someone were to force them [to expose the heart] they immediately perforate the thorax’.

⁴⁶ AA K II.637. ⁴⁷ Lloyd 1996: 273.

⁴⁸ PHP K V.543, CMG V.4.1.2, 392.6–7: τὸ φαινόμενον αὐτὸ διὰ τῆς ἀνατομῆς βιάζεται καὶ τοὺς τάναντία δοξάζοντας ἀκόντας ὁμολογεῖν τάληθές.

⁴⁹ Gleason 1999.

his students). These competitive young men (φιλοτιμότεροι νεανίσκοι) took on a boastful physician who had been publicly claiming that he could demonstrate (ἐπιδείξειν) that the aorta contains no blood.⁵⁰ They confronted him with some live animals and demanded that he prove his case. He countered by refusing to do a demonstration without a fee. The young men immediately produced a thousand drachmae and deposited them in the middle of the crowd that had gathered to observe the spectacle (τὴν θέαν). With his back to the wall, Galen's rival tried to weasel out of the contest, but he was *compelled* (ἀναγκαζόμενος) by all those present to perform. Summoning up his courage (ἐτόλμησε), he plunged in the scalpel – and hit bone. One of his supporters tried again – and severed an artery. The young men who had deposited the stakes with the spectators laughed at these failures. (Laughter was no laughing matter in Galen's world, but a key weapon in the intellectual's armoury, as the dozens of references to contemptuous laughter in his texts attest). Having had their laugh, Galen's students compounded their rivals' discomfiture. They slit open the chest cavity of another animal, cutting the way Galen had taught them to do. Without damaging anything, they tied off the aorta in two places so that, when the animal died, they could show that the vessel was full of blood, not air, as their foolish antagonists had claimed.

This question, whether arteries contain blood or air, seems to have provoked particularly sanguinary disputes.⁵¹ For example, one of Galen's rivals once made the mistake of citing an experiment that Galen had written about, as if it proved his own theory. He made this claim before an audience containing some of Galen's associates, who 'marvelled at his daring', for they had previously seen the demonstration performed, to opposite effect, by Galen himself.⁵² Incensed by this fellow's temerity, they demanded whether he had, in fact, ever actually performed the experiment in question. He claimed that he had, many times. They brought him a goat and tried to *force* him to dissect.⁵³ When he refused, they whipped out their scalpels and cut up the goat themselves in front of the audience, vindicating Galen's claims and extinguishing his rival's pretensions. On another occasion, an elderly rival ('seventy years old and quite full of himself') claimed that he knew how to demonstrate that arteries contain

⁵⁰ AA K II.642–3.

⁵¹ The followers of Erasistratus propounded the view that arteries contain pneuma. Galen wrote a treatise to refute this: *On Whether Blood is Contained in the Arteries* (Art.Sang.) K IV.703–36, translated with introduction in Furley and Wilkie 1984.

⁵² AA K II.645–7. It was Erasistratus who originally claimed that the experiment would show the opposite of what Galen actually demonstrated (AA II.648). On the element of the marvellous (AA K II.645 θαυμάζοντες οὖν αὐτοῦ τὴν τόλμαν οἱ τεθεαμένοι) see further below.

⁵³ AA K II.646 ἡνάγκαζον.

pneuma.⁵⁴ Yet despite his seniority he had never actually dared put his method to the test.⁵⁵ Galen and his associates issued a formal challenge to an anatomical duel. They prepared a goat and a sheep according to the old man's proposed method and summoned him to 'come and see his dreams refuted once and for all'.⁵⁶ These episodes are interesting for their displaced aggression: it's like a rumble between rival gangs who end up knifing an animal instead of each other.⁵⁷

At times it seems as if Galen is taking advantage of the fact that he is both more skilled and less squeamish than his opponents. Imagine that you are engaged with Galen in a learned dispute about the location of a living organism's controlling faculty, the *hēgemonikon*. Should you be so foolish as to espouse the cardio-centric view, you might be forced to watch as Galen lays open the chest of a living animal and then invites you to squeeze its beating heart.⁵⁸ Gingerly, you comply, but, 'quivering violently', the heart leaps from your uncertain fingers. Perhaps you have had enough. But Galen is not done with you yet: he hands you a set of bronze tongs and instructs you to pick up the heart and squeeze again. In a sense he has forced you to disprove your own hypothesis, for, as you squeeze, the animal does not lose consciousness or lose its capacity for voluntary movement – indeed it cries out loudly, inhales freely and keeps up a furious kicking of its limbs.⁵⁹ So much for your theory of the hegemony of the heart. To drive home his competing theory of the hegemonic brain, Galen immediately cuts open an animal's skull. All he has to do is apply pressure to the ventricles and the animal stops moving, stops breathing and loses its voice. In effect, the animal loses and regains consciousness at his command.⁶⁰

⁵⁴ This gentleman was most likely the Erisistratean Martialis, whom Galen mentions elsewhere as a 'remarkably malign and contentious individual, despite his more than seventy years' (*On My Own Books* K XIX.13). *On Prognosis* K XIV.615 refers to a hostile anatomist Martianus, perhaps the same fellow.

⁵⁵ *Anatomical Procedures* K II.644–5 ἐγχείρησιν ταύτην οὐδέποτε ἐτόλμησεν ἔργῳ βασανίσαι. In the context of vivisection, the verb βασανίζειν 'put to the test' may retain some of the connotations of its common meaning, 'put a body to the test, torture'.

⁵⁶ *AA* K II.645 παρακαλοῦντες αὐτὸν ἐξεγερθέντα θεάσασθαι ποτε κἂν ἅπας παρελεγχόμενος τὰ κατὰ τὸν ὕπνον αὐτῷ φαντασθέντα.

⁵⁷ Debates always had the potential to become brawls: on one occasion Galen's frustrated opponent tried to strike him and had to be restrained by the onlookers (*Differences of Pulses* (*Diff.Puls.*) K VIII.571–2).

⁵⁸ This sequence of events can be reconstructed from *PHP* K V.184–7, *CMG* V.4.1.2, 78–80.

⁵⁹ ἀλλ' ἔγωγε οἶδα καὶ πυράγγρα ποτὲ χαλκῶς ἐπιτρέψας τινὶ περιλαβεῖν αὐτήν, ἐπειδὴ καὶ τῶν δακτύλων ἐξεπτήδα βιαίως παλλομένη· ἀλλ' οὐδὲν οὐδὲ τότε τὸ ζῶον ἔπασσεν οὔτε εἰς αἴσθησιν οὔτε εἰς κίνησιν τὴν καθ' ὁρμήν, ἀλλ' ἔκεκράγει τε μεγάλα καὶ ἀκωλύτως ἀνέπνει καὶ πάντα ἐκίνει σφοδρῶς τὰ κῶλα *PHP* K V.186, *CMG* V.4.1.2, 80.

⁶⁰ Heavy-handed trepanation produces in effect the same experiment on the human brain (*PHP* K V.186, 605, *CMG* V.4.1.2, 78–80, 442; *Loc.Aff.* K VIII.128).

Generally, however, Galen prefers to present himself as driven into anatomical duels by the imbecility of his opponents. When faced, for example, with the recalcitrance of a partisan of the Asclepiadian sect who refused to acknowledge the role of the kidneys in excretion, Galen describes himself as compelled (ἡναγκάσθημεν) to silence his drivelling talk by performing an elaborate vivisection (he sequentially tied off the animal's kidneys and then its penis, squeezed on its bladder and then, in the moment of truth, produced a spurt of urine by piercing the distended ureter, which he compares to the spurt of blood in venesection).⁶¹

In his less technical works of self-promotion, aimed at a non-professional audience, Galen is careful to present the impetus for his formal duels as coming from someone else. For example, in *On My Own Books*, Galen states that he decided to 'sew up the slanderous tongues' of his rivals (a vivisection-tinged metaphor imported from the quarrels of Demosthenes and Aeschines) by doing no more public teaching and saying the minimum at the bedside.⁶² Eventually, however, the malignity of his rivals filled Rome with rumours that Galen had claimed credit in his treatises for anatomical discoveries that could not actually be seen.⁶³ Galen reports that his own response was merely a contemptuous laugh. It was his friends who took umbrage and urged him to do a public demonstration. When he refused, his enemies misrepresented his high-minded reluctance as fear and taunted him daily in front of the intellectual crowd that congregated at the Temple of Peace. Eventually, Galen was compelled (ἀναγκασθεῖς) by his friends to defend himself in an anatomical marathon that lasted several days. The written works of all previous anatomists were laid open before him and Galen invited all comers to select passages for comment and refutation.⁶⁴ The usual method for doing this was that a challenger would get up, walk forward to the array of books and stick a stylus in the passage to be discussed.⁶⁵ Galen would then take up the scalpel and dissect, defending his discoveries in words that later became a treatise, thus completing a cycle between bodies and books in which pen and scalpel operate in alternation.

In *On Prognosis*,⁶⁶ another work of self-promotion aimed at a non-specialist audience, the impetus for an anatomical demonstration comes from the highest quarters of Roman society: it is the consular Boethus who makes arrangements for Galen to demonstrate to him the mechanisms of

⁶¹ *On the Natural Faculties* (*Nat. Fac.*) K II.36–9.

⁶² *On My Own Books* (*Lib. Prop.*) K XIX.15 (*SM* 2.96). Compare Aeschines 2.21.

⁶³ *Lib. Prop.* K XIX.21 (*SM* 2.100–1). The treatise in question was his masterpiece of teleological anatomy, *De Usu Partium*.

⁶⁴ *Lib. Prop.* K XIX.21–2 (*SM* 2.101–2).

⁶⁵ *Lib. Prop.* K XIX.14 (*SM* 2.95).

⁶⁶ Nutton 1979.

voice and breath. Boethus provided some kids and pigs (Galen warned him not to get apes). The assembled audience was very ‘Second Sophistic’: it included the Sophist Adrian of Tyre, Demetrius, a pupil of Favorinus, and Boethus’ philosophy coach, the crusty Peripatetic Alexander. Galen refers to the event first as ‘an inquiry’ (ζητήσις) and then, more frankly, as a contest (ἀγών).⁶⁷ Galen presents himself as eager to defuse potential conflict with Alexander, of whose surly temper he was well aware. He tactfully invited Alexander ‘to be our teacher’ and to draw the relevant logical conclusions after the dissection was over.⁶⁸ But Alexander did not play by the proposed rules of ‘dissection first, discussion afterward’. For while Galen was still explaining what he was about to attempt, Alexander interrupted with an epistemological objection, ‘But should we concede that the evidence of the senses is to be trusted?’ Galen’s response was abrupt and dramatic: he walked out, saying only, ‘Had I known I was going to be dealing with boorish ‘Scept-hicks’ (ἀγροικοπυρρωνείους), I would not have come.’⁶⁹

Word of this aborted display got around quickly, as you may imagine, and three consulars with intellectual interests demanded that a dissection be performed in their presence.⁷⁰ Sergius Paulus, Claudius Severus and Vettulenus Barbarus convened a large group of everyone in Rome who had a reputation in medicine or philosophy. (We are now definitely in the realm of Second Sophistic education as entertainment).⁷¹ *On Prognosis*, being a non-technical work, focuses on the social dimensions of this command performance. We must reconstruct from other treatises what he actually did. In *Anatomical Procedures* he describes a series of demonstrations he

⁶⁷ *Praen.* K XIV.625–6, *CMG* V.8.1, 94.20, 25. This contest had an all-star audience, but various remarks in Galen suggest that public anatomical disputes were quite common. For the protocols of public disputation in late antiquity see Lim 1995.

⁶⁸ *Praen.* K XIV.628, *CMG* V.8.1, 96.

⁶⁹ For abrupt departure as a power move in disputation, compare *On the Natural Faculties* (*Nat.Fac.*) K II.35, where Galen’s opponent presents an anatomical argument as if it were definitive and takes off without waiting for an answer. For Galen’s attitude to philosophical scepticism see Barnes 1991: 79 with notes. In *On the Best Method of Teaching* (*Opt.Doct.*) Galen attacks the scepticism of Academic philosophers like Favorinus.

⁷⁰ *Praen.* K XIV.629, *CMG* V.8.1, 98.8.

⁷¹ For anatomy as education/entertainment we might compare the current craze for viewing plasticised human corpses flayed open and exhibited to large crowds: en.wikipedia.org/wiki/Body_Worlds. The tangibility of these ‘real’ bodies, however plasticised, seems to exert a greater fascination over the general public than the images generated from human bodies by the National Library of Medicine’s ‘Virtual Human’ project (www.nlm.nih.gov/research/visible/visible_human.html). In contemporary culture, where the boundaries between truth and spin, virtual reality and ‘real’ reality have become increasingly unstable, the viewing public is drawn to exhibits that seem to anchor reality in the body, as well as forms of entertainment that fascinate by playing with unstable boundaries between the (allegedly) real and the (apparently) simulated.

did in public over several days, selectively paralysing the diaphragm and the intercostal muscles in a series of animals (the movements of the thorax are best revealed by skinning the animal alive).⁷² There are four methods, he tells us in a practical passage, of paralysing an animal's respiratory and vocal mechanism.⁷³ You may excise a rib. Observe closely the position of the rib you intend to excise and cut into it just when the animal is crying out. (Thus the animal's resistance, by expanding the ribcage, renders the geography of its thorax hyper-legible to the exploring anatomist.) Cut through skin and muscle, scrape off membrane and excise the rib with two chisels.⁷⁴ In a newborn animal you need make only one cut: grasp each half of the severed rib with your hands and bend back out of the way. Sometimes the animal is still able to make some sound – an indistinct sort of gurgle.⁷⁵ If you paralyse the intercostal muscles on one side, the animal will phonate at about half volume. In fact you can vary the volume of its cries according to the number and size of the muscles you cut.⁷⁶ If you sever the spinal cord halfway, the animal becomes half-voiced; sever it entirely, the animal loses its voice altogether.⁷⁷ But with Galen's fourth method you can both silence the animal and *then reverse the process*. To do this, you have only to tie off the nerves that run along the carotid artery on either side of the neck. The animal becomes completely voiceless save for the rattle as it gasps for breath.⁷⁸ Loosen the ligature and, presto, it can cry out again. (But do not, whatever you do, confuse the results of ligating the vagus nerve with the results of ligating the carotid artery, lest, like one of Galen's unfortunate contemporaries, you be 'exposed and put to shame, in the presence of a large assembly'.)⁷⁹

To achieve maximum effect in the demonstration of the vocal mechanism, Galen advises us to use a pig, 'since the animal that squeals the loudest is the most convenient for experiments in which the voice is harmed'.⁸⁰ After looping threads around the intercostal nerves, Galen would strike the animal to make it cry out. Then, after tightening the threads, he would

⁷² AA K.II.677–80. At various points the Arabic translation clarifies the faulty Greek text: Garofalo 1991: 37–8, 746–51. For detailed analysis of Galen's thoracic experiments see Debru 1994: 1739–41.

⁷³ AA K.II.687. ⁷⁴ AA K.II.685–6. ⁷⁵ AA K.II.689. ⁷⁶ AA K.II.688.

⁷⁷ AA K.II.684. ⁷⁸ AA 14, 264 Simon, 210 Duckworth. ⁷⁹ AA 14, 266 Simon, 212 Duckworth.

⁸⁰ AA K.II.663. Did Galen ever perform vocal experiments on humans? He recommends dissecting the vocal apparatus of human cadavers in AA XI (107 Simon, 86 Duckworth), and there is a passage in *PHP* that states: 'Thus if you sever the trachea below [the larynx], you will no longer hear the animal using its voice... And if the animal so wounded should be a man, you will be in a position to ask him to say something.' (εἰ γοῦν κατωτέρω τέμοις αὐτοῦ τὴν τραχείαν ἀρτηρίαν, οὐκέτ' ἀκούσῃ φωνοῦντος τοῦ ζώου... καὶ εἴπερ ἄνθρωπος εἴη τὸ οὗτω τραθὲν, ἐξέσται σοι κελεύειν αὐτῷ φθέγγασθαι τι *PHP* K 5.231, *CMG* V.4.1.2, 120, trans. De Lacy.) If Galen is referring to a man accidentally wounded in the throat, he does not explicitly say so.

strike the animal a second time and the spectators would marvel that the animal stayed silent. 'This *shocks* the spectators (τοὺς θεατὰς ἐκπλήττει), for it seems *marvellous* (θαυμαστόν) that the voice is destroyed by small nerves being tied along the torso.' Then Galen would untie the nerves and strike the animal once again. When it cried out, the audience, awestruck, 'would *marvel* even more'.⁸¹ Galen went on for hours, in fact for days, refuting his detractors and producing in his audience the gratifying astonishment that he describes as the usual response to these experiments: 'And they *marvel* when they hear that speech comes from the brain, and they *marvel* even more, and call us posers of paradoxes, when they hear that all voluntary movements are produced by the muscles.'⁸² Indeed, once his opponents have been effectively silenced, Galen's anatomical performances look less and less like an intellectual debate and more and more like a magic show.

ANATOMY AND WONDERWORKING COMPETITIONS

A magic show? Reverence for Galen as a pioneer of scientific rationalism makes it difficult to concede that his activities might have anything in common with wonder-working competitions and the popular performances of mountebanks. But no less sober-sided a Sophist than Dio Chrysostom clearly situates performing physicians in the realm of the spectacular and the marvellous. He compares their medical displays (ἐπιδείξεις) to public spectacles and processions (θεωρία . . . καὶ πομπή). He describes how performing doctors sit in state in the middle of a crowd, holding forth about joints, bones and the refinement of pneuma while their audience gapes as if bewitched.⁸³ Moving further into the popular culture of an age that assumed no discontinuity between natural and supernatural causation, we could compare Galen's anatomical duels to the sort of *agon* between duelling showmen of the supernatural that we see in another

⁸¹ AA K II.669 οὕτω γὰρ μᾶλλον οἱ θεαταὶ θαυμάζουσι. This passage shows that Galen used multiple assistants to speed up his demonstrations.

⁸² PHP K V.233, CMG V.4.1.2, 123 trans. De Lacy: κάπειτα θαυμάζουσιν ἐξαίφνης ἀκούσαντες ἐξ ἑγκεφάλου γίνεσθαι τὴν φωνήν· ἐτι δὲ μᾶλλον, ἐπειδὴν ἀκούσασιν ὡς αἱ κατὰ προαίρεσιν ἅπασαι κινήσεις ὑπὸ μυῶν ἐπιτελοῦνται, θαυμάζουσι τε καὶ παραδοξολόγους ἡμᾶς ἀποκαλοῦσι . . . On the vocabulary of astonishment used to describe the affective and cognitive impact of both Galen's and the Sophists' performances see von Staden 1995: 59.

⁸³ Or. 33. 6 οἱ δὲ πολλοὶ κεχήνασι καὶ κεκήληνται. Aelius Aristides, another Sophist, speaks of 'doctors and wonder-workers' in the same breath when he describes how they have trained their assistants to collaborate in astonishing the spectators: οἱ παῖδες οἱ τῶν ἱατρῶν τε καὶ τῶν θαυμαστοποιῶν γυμνασμένοι . . . συμπτράττοντες ἐκπλήττουσι τοὺς θεωμένους (Or. 39.14).

second-century text, the apocryphal *Acts of Peter*.⁸⁴ Here Rome is the scene of a show-down between two professional rivals, claimants to exclusive truth about the identity of the forces that govern the universe. These rivals contend in public, before an audience prepared to judge them, and the winner is he who can most effectively force another's body to 'speak' his truth. Peter, like Galen, plays the role of authentic truth-master, while Simon plays his fraudulent opponent. In this contest Peter, like Galen, demonstrates his power by forcing various demonstration bodies to vocalise in astonishing ways. Peter commands a dog, an infant, even Simon himself, to speak truth at his command. Just as in Galen's experiments on the voice, Peter strikes his subjects dumb with equally astonishing aphasia.⁸⁵ (Unlike Galen, he can also make a dried fish swim.) The final show-down between Peter the truth-master and Simon the charlatan takes place in the Roman forum before an eagerly assembled crowd. This crowd, which includes senators and government officials, serves as both audience and jury. The spectators, like the young anatomy enthusiasts of Galen's narrative, have eagerly put up money to see the spectacle.⁸⁶ The wonder-working contest between Peter and Simon, like those in which Galen engaged, begins with verbal sparring and then becomes hands-on, a series of demonstrations and counter-demonstrations on bodies (a slave, a poor man and a senator) that are immobilised and then reanimated by the protagonists testing their supernatural powers.

Immobilisation, sometimes followed by reanimation, was indeed the clincher in many of Galen's vivisection demonstrations. He tells us how to achieve a dramatic paralysis by severing the trapezius muscle at the neck of a living animal; it is easy for the audience to see how the scapula drops and cannot be raised again.⁸⁷ Even more impressive were his progressive and reversible demonstrations on the living brain. You can cut open the skull, pull back or remove the tough membrane (*dura mater*), and even cut into the brain itself, and the animal will retain sensation and motion. But if you cut into or put pressure on the ventricles one by one, progressive paralysis

⁸⁴ Fictional this text may be, but it shows how some readers at least might imagine such a contest. On the show-down between Peter and Simon as a truth-contest see Gleason 1999.

⁸⁵ Lipsius 1891: aphasia and immobilisation: 46, 57, 62, 72, 76, 82–3; miraculous speech: 57, 59–60, 61–2, 77; reanimation: 59 (statue fragments reassembled), 60–1 (dried fish), 73–7 (slave boy 'demo', a widow's son and a senator). This text belongs to the latter half of the second century (Schneemelcher 1965: 275, with introduction and translation 259–322).

⁸⁶ Lipsius 1891: 70. Is the money merely an admission fee, or does it suggest a wager or a pot of prize-money for the victor? The doctor who wins a truth contest in Apuleius (also decided by the evidence of a reanimated body) receives a bag of gold as a prize (*The Golden Ass* 10.12).

⁸⁷ *AA* K II.447.

ensues.⁸⁸ This can be reversed if you let up on the pressure or close up the ventricle: 'the animal returns to consciousness and moves again'.⁸⁹ Galen's explanation for this is that psychic pneuma, which he considered the soul's 'first instrument', and as such responsible for sensation and motion, is formed in the ventricles and leaks out when they are injured. When enough pneuma has collected again, the animal returns to consciousness.⁹⁰ The point of these experiments is to demonstrate that psychic pneuma is contained in the brain, and thus to vindicate the claim that the brain, not the heart, is the hegemonic organ.⁹¹ But the power of psychic pneuma is a difficult thing to demonstrate, given that it is invisible (indeed, imaginary). Like Peter demonstrating the power of his god, Galen is faced with the challenge of authenticating the presence and demonstrating the power of an invisible force. His solution is to render the invisible visible by demonstrating its power to paralyse and reanimate bodies: 'when pneuma is let out through wounds, the animal immediately *becomes like a corpse* (αὐτίκα μὲν οἷόνπερ νεκρὸν γίγνεσθαι τὸ ζῶον), but when it has been collected again, the animal *comes back to life* (ἀναβιώσκεσθαι).⁹² In Galen's anatomical duels, as in the contest between Peter and Simon, two claimants to exclusive truth contend in public, before an audience that serves as jury, and the winner is he who can most effectively demonstrate the power of things unseen by making a specimen body – a body that has been deprived of agency – expire, reanimate or speak at his command.

BLOOD AND FORCE (READING BETWEEN THE LINES)

Although demonstrations of power often involve the use of force, the practitioner appears most powerful who exerts that force with ease. In his live performances, Galen flourished his instruments with a facility developed by constant, even compulsive, practice.⁹³ Writing for the general public, Galen makes vivisection look effortless, achieved without assistance or physical exertion. No mess, no noise, no struggle, no excrement. The animals never bleed, kick or scream except on cue to validate the intellectual claims of

⁸⁸ Injury to the anterior ventricle harms the animal least, the middle ventricle an intermediate amount and the posterior ventricle harms the animal most (*PHP* K V.233, *CMG* V.4.1.2, 442; *AA* IX, 22–3 Simon, 20–1 Duckworth).

⁸⁹ *PHP* K V.606, *CMG* V.4.1.2, 444. *AA* concedes that revivification is easier if the brain has been exposed in a warm room (*AA*, 22 Simon, 18 Duckworth).

⁹⁰ Strictly speaking, in the adjacent choroid plexus (*PHP* K V.606, *CMG* V.4.1.2, 444). For an exposition of the complexities of Galen's pneumatic physiology, see Rocca 2003: 201–37.

⁹¹ *PHP* K V.187, *CMG* V.4.1.2, 80.18–20. ⁹² *PHP* K V.609, *CMG* V.4.1.2, 446.13–15.

⁹³ On Galen's preparation for public performance by extensive rehearsal in private see von Staden 1995: 50–1, 1997b: 41–2.

the experiment. For these elided but inevitable realities we have to read between the lines of the more technical treatises, designed for would-be practitioners. *On the Dissection of Living Animals* has not survived.⁹⁴ In *Anatomical Procedures*, however, Galen does concede that dissection of living animals is ‘more difficult and more troublesome’ than the dissection of dead ones, ‘because blood must necessarily then burst out’.⁹⁵ This treatise, by giving the reader some useful pointers about restraining animal subjects, suggests the level of coercive force that vivisection actually involved:

Let the animal be young so you can do the cutting with just a scalpel, without excision instruments. Let the animal be arranged in the appropriate posture, supine, on a board – you’ve seen that I have many of these already prepared, both small and large, so that one can always be found to fit the animal. The board should have holes bored in it through which a thin rope – or even a thick one – can be threaded. Let one of the attendants be taught to throw four ropes around the animal when it is lying on the board, one for each limb, and then thread them through the holes in the board and tie them underneath.⁹⁶ (AAKII.627)

The apparatus here described must have been used in all his dissections of living animals, but Galen seldom mentions it. In fact, Galen never mentions the animal’s resistance directly. Violent resistance is implied, of course, by the complexity of his elaborate trussing system. Yet the implications of this apparatus are never spelled out. Restraining a struggling animal is in fact very difficult, and unexpected movements must have botched not a few demonstrations. Perhaps Galen rarely discusses the details of animal restraint because he conceives of them as banausic, a function (like the holding of basins) best left to slaves. He does mention forms of coercion that magnify the visual effect of his demonstrations, however. To make demonstrations of the function of the pleural cavity more dramatic, for example, Galen advises that you *force* (ἀνάγκασε) the animal to run before the dissection, so that it is visibly panting while you cut out its rib.⁹⁷ (Here the whip joins the scalpel as an instrument of anatomy.) To the

⁹⁴ He refers to it in *Affected Parts* (*Loc. Aff.*) K VIII.140–1, 271, and in *On the Order of My Own Books* (*Ord. Lib. Prop.*) K XIX.55. *On Problematical Movements* (XI.1, 224–5), recently discovered by Vivian Nutton in a Latin translation by master Nicolaus of Reggio di Calabria, contains what Galen says is a repetition of his remarks on vivisection experiments on the oesophagus from Book 2 of *De anatomia vivorum*. The Latin *de anatomia vivorum* (included among the spuria in the Giuntine edition of Galen) is a work of anatomical description and does not discuss dissection at all.

⁹⁵ AA XII (155 Simon, 124 Duckworth).

⁹⁶ Cf. K II.691. This board is described again in AA XI (132 Simon, 105 Duckworth).

⁹⁷ Sometimes the point of forcing an animal to run before dissection was to make it use up its psychic pneuma. Thus if the animal continues moving after the connection between its brain and its heart has been severed by ligation of its carotid arteries, it must be replenishing its psychic pneuma (so Galen reasoned) from elsewhere: from the air inhaled through the nose and elaborated in the ventricles of the brain (*Us. Puls.* K V.154–5 (Furley and Wilkie 1984: 198–200; Rocca 2003: 233–4).

same end Galen suggests that you can make the animal *run extra hard* and then paralyse the diaphragm so it is forced to use its intercostal muscles to inhale.⁹⁸

Sometimes the impressive effect of a demonstration derived from its technical complexity, as when Galen sutured an inflatable bladder to the hole opened up by the excision of a rib.⁹⁹ Sometimes the shock value lay in uncovering, while still in motion, the moving parts that are normally concealed. In particular, Galen liked to lay bare a beating heart. His audience could then observe how the chambers of the heart stop beating in stages as the animal expired.¹⁰⁰ It works best to do this in a warm building, perhaps the public baths, lest the heart's pulsation be retarded by the cold.¹⁰¹ One could also squeeze the exposed heart to see what happens – though since the heart tends to jump out from between one's fingers, one may want to use tongs.¹⁰² Just as in surgery, itself a form of vivisection if you think about it, clumsy cuts in an anatomical demonstration could spoil the show: sever all the other ribs with one stroke, if you like, but spare the first rib 'for fear of a haemorrhage'.¹⁰³ Sometimes, however, a gush of blood provides the proof required. To show that the living heart does not contain pneuma, one has only to pierce it with a scalpel or a pen.¹⁰⁴ Here again the homology between pen and scalpel, blood and ink, emphasises how for Galen writing anatomy and performing anatomy were parallel processes (a symmetry explored by Thomas Eakins in his famous painting of the Gross Clinic, where the pens in the hand of the medical recorder and the artist hidden in the background resonate with the assistant's probe and the scalpel glowing red in the surgeon's hand).¹⁰⁵

The experience of reading about Galen's anatomical demonstrations is of course not the same as watching them. In these texts, as in a horror movie, the worst of the violence is implicit, and the most frightening aspects of the story take place off the page. So it is possible to read their

⁹⁸ *AA* K II.702.

⁹⁹ *AA* K II.703–5, an experiment worthy of publication in the *Journal of Irreproducible Results*, which ironically proves the Empiricists' point that anatomical experiments alter the phenomenon observed (Celsus *De medicina* Proem. 40–3).

¹⁰⁰ *AA* K II.639–41 cf. 593–4, 'Indeed I often intentionally lay bare the whole heart of a still-living animal ...'

¹⁰¹ *PHP* fr. vii *CMG* V.4.1.2, 71. ¹⁰² *AA* K II.635–6.

¹⁰³ *AA* K II.598–9. While the ignorant surgeon may inadvertently sever an artery and bring about a haemorrhage that he cannot control (*AA* K II.343), the skilled anatomist will be able to proceed 'without blood spurting over him' (*AA* XI, 128 Simon, 102 Duckworth).

¹⁰⁴ *PHP* K V.184, *CMG* V.4.1.2, 78.

¹⁰⁵ Cf. Vegetti 1996: 57. For the painting: www.metmuseum.org/special/Thomas_Eakins/4.L.htm. For a discussion of this painting see Fried 1987: 1–89. For stories about pens used as weapons see *On the Passions and Errors of the Soul* (K V.17).

surface only, and not to give much thought to what is left unsaid. Galen's original readers¹⁰⁶ were more likely than modern scholars to have seen anatomical demonstrations actually performed, and thus would bring to them a much more specific array of mental images. These might arise unbidden to create a sort of interior visual experience that would unfurl in parallel to Galen's words as ancient readers read or listened to the words of the text. In fact Galen's insistent use of the second person (you see . . . you cut . . . you find), combined with his way of walking the reader step by step through various procedures, adds a virtual reality, a 'you-are-there' dimension, to the experience of reading the text. This is a rhetoric of immediacy and involvement, which invites the reader to imagine himself performing acts of violence while simultaneously screening him from their messy consequences. The ancient reader of Galen's *Anatomical Procedures* thus received an affective education in the dispassionate use of physical force. The modern reader, ever suspicious of media manipulation, inured perhaps to simulated violence in entertainment, but less accustomed to actual violence in daily life, may suspect that beneath the calm didacticism of Galen's anatomy narratives, with their pedantically precise descriptions of flayed skin, crushed nerves and severed spines, a crucial dimension of the experience – not just for the animals, but also for the performer and his spectators – is being elided.

LAYERS OF MEANING IN ANATOMICAL DISPLAY

By combing Galen's own texts for clues, I have tried to flesh out (as it were) what physically happened in his demonstrations. What was happening concurrently inside people's heads, however, cannot be reconstructed with any certainty. When I wrote at the outset of this chapter that Galen's anatomical displays were dense with implicit meanings, I was making the assumption that events have multiple layers of meaning, only some of which are explicitly acknowledged by the participants. I am also assuming that people may be most powerfully gratified, disturbed or consoled by those very dimensions of a visual experience that they cannot rationalise or articulate in words. In order to figure out not only what went on but also what it meant, we must be content with very provisional conclusions.

First, it is necessary to recognise that despite their elevated scientific purpose, those actually present would have found the bloodshed of Galen's

¹⁰⁶ Either companions who had observed Galen's own demonstrations and requested a treatise as an *aide memoire*, or diligent neophytes who lacked access to a living teacher *AA K II.449–50*.

anatomical demonstrations difficult to ignore. The excitement of these performances was visceral as well as cerebral. However controlled or stylised the violence, killing and maiming were part of the show. There was no way to do such demonstrations and keep one's hands clean. And there was no way to watch them without participating in the collective fascination of a crowd watching a bloody spectacle. Participating in this experience would have constituted some sort of affective conditioning for the spectators, but precisely what sort of conditioning it was would have depended on the range of associations they brought with them to the spectacle. Though we might try to draw analogies to the spectators' experience at a modern bullfight or rodeo, to imagine its effect on Galen's contemporaries we still have to ask, to what matrices of meaning in his culture did this phenomenon connect? Haruspicy, perhaps, in that both the anatomist and the haruspex were looking inside the bodies of animals for some sort of meaning (whether signs of nature's providence or the will of the gods). But sacrifice in general is not a particularly exact parallel.¹⁰⁷ Galen's anatomies were not intended to mediate the relationship between the gods and men, and lacked most of the key ritual components of an ancient sacrifice: fire, an altar, a formal procession, prayers, the barley that elicited the animal's nod of consent and the consumption of the meat by the participants.¹⁰⁸

SEEKING TRUTH FROM BODIES: THE CRIMINAL INTERROGATION

For Galen's spectators public vivisection may have resonated with their memories of another sort of agonistic performance, violent but banal, familiar to all who frequented the assize cities of the Roman Empire: the criminal interrogation.¹⁰⁹ Anatomy contests, with their emphasis on settling a truth-dispute by coercive manipulation of animal bodies, resembled criminal trials, in which the bodies of low-status defendants were routinely tortured to prove the truth-claims of the interrogating magistrate.¹¹⁰

¹⁰⁷ Thus a vivisection is almost an inversion of a sacrifice, although in both the animal's agency, and therefore its ability to express pain, is controlled or elided (Hawkins, 2003). Apuleius *Metamorphoses* XI.13 suggests that in non-ceremonial contexts in the ancient world, there was little attempt to disguise or conceal animal suffering.

¹⁰⁸ Lucian, *De sacrificiis* 13 suggests, however, that in Greek sacrifice in the second century, the officiating priest, like the anatomist, might wield the knife and handle the heart and entrails with bloody hands. The question of differences between Greek and Roman sacrifice in this period, however, is vexed (Schied 1995).

¹⁰⁹ So banal and familiar, in fact, that it surfaces as a type-scene in a Graeco-Latin phrasebook: Dionisotti 1982 with Gleason 1999: 297–9.

¹¹⁰ As the magistrate says in Apuleius, *tormentis veritas ervenda* (*Met.* III. 8). On inquisitorial procedure under the Empire, see Potter 1996: 147ff. ('A trial was a contest about truth between magistrate

The anatomical demonstration described in *On Prognosis* resembled a criminal interrogation in its supervisory personnel: it was convened by Roman senators who were accustomed to exercising judicial authority – one of them indeed was shortly to attain the Empire’s highest judicial post.¹¹¹ Galen’s vivisection performances also resembled a Roman criminal interrogation in their inquisitory apparatus: the boards, presumably placed on trestles, on which the animals were stretched out and tied with ropes bear some structural and functional resemblance to the rack on which defendants and witnesses in Roman criminal trials were tied and stretched for interrogation,¹¹² And the hooks with which Galen and his assistants pulled apart tissues during dissection evoke both the claws with which the skin of criminal defendants was harrowed and the hooks with which their bodies were dragged through the forum.¹¹³ Hooks were also inserted into the mouth of criminal defendants before sentencing to prevent them from uttering curses against the Emperor.¹¹⁴ During vivisections that did not involve the vocal apparatus, the animal was presumably also silenced in some way, though we do not know the mechanism. In both the criminal courtroom and Galen’s anatomical demonstrations of voice production, evidence for truth is extracted, by force, from a body that is made to ‘speak’ on command. In both the criminal courtroom and in Galen’s anatomical demonstrations one might see trained shorthand writers making a written record of the proceedings,¹¹⁵ and, like a legal proceeding, Galen’s demonstration was essentially adversarial, designed to contest, and then to silence, the truth-claims of his professional rivals and philosophical detractors. ‘My rivals’, he writes, ‘have not dared to contradict what I dictated in that

and defendant set on a playing field that was designed to give all advantage to the representative of Imperial government’). There is useful material for a worm’s eye view of the Roman criminal justice system in Lieberman 1944–5. Some of the less-fanciful martyr acts give glimpses of torture as routine procedure, such as the passion of St. Athenogenes, in which the magistrate’s frustration is palpable as he hoists two suspects up and down in a tedious attempt to extract the truth from them (Maraval 1990).

¹¹¹ Sergius Paulus. On the *praefectus urbi* see Garnsey 1970: 90–100.

¹¹² On the *eculeus* and *ungulae* see Seneca *Letters* 14.4; 78. 15–19; Augustine *Confessions*, 1.9.15; *Letters* 43.4.13; 133.2. See Grodzynski 1984. The anatomy bench with its ropes might also recall the various forms of apparatus that were used in antiquity for the reduction of dislocated joints (*Hipp.Art.* K XVIII.A.338–9), but since these procedures were non-sanguinary, I imagine that vivisection apparatus was more likely to recall the apparatus of criminal procedure.

¹¹³ Galen mentions the hook (ῥαγκιστρον) often in *Anatomical Procedures*. Cassius Dio mentions the Roman practice of dragging executed prisoners through the forum with a hook (60 [61] 35).

¹¹⁴ Lieberman 1944–5: 45–8. ‘[T]he rabbis offer us a description of the “legal” procedure in the Roman courts of Palestine, *not* as it ought to have been (according to the Roman laws) but as it was practiced in fact, legally or illegally. They recorded the actual “realia” of the Roman procedure.’ (38).

¹¹⁵ *Praen.* K XIV.630, *CMG* V.8.1, 98–100. For the reading aloud of the trial transcript before the judge pronounced his verdict, see Lieberman 1944: 33.

transcript, though fifteen years have gone by . . . they have not dared to bring their writings to a *trial* (κρίσις) before intellectuals.¹¹⁶

ANATOMY AND THE ARENA

Galen's demonstrations on live animals have in turn elements in common with the beast hunts and penal executions of the amphitheatre, a Roman institution that had developed a complex discourse about bodies and power.¹¹⁷ This discourse was spelled out in the interplay between the spectators, whose bodies were, at least for the occasion, immune from ritual violence, and the spectacle: animals and de-privileged humans whose bodies were not. In the case of the great demonstration described in *On Prognosis*, Galen's aristocratic friends who organised the contest, selected the venue and provided the animals, were engaging in practices quite similar to those performed by impresarios of games. Galen was a private citizen, not a government official or imperial priest; he did not give games. But in anatomical demonstrations where he provided the animals, he in effect played the role of presiding magistrate or Emperor, in that his honour was ultimately enhanced by the display in the arena over which, as master of life and death, he called the shots. Yet Galen was more than an impresario: by performing vivisections himself, he also played the hands-on role of expert *venator*: assisted by anonymous *bestiarii*, he contended against the animal's fear and fury in a display of his lethal skill.¹¹⁸ Make no mistake: performing anatomy was a way of demonstrating personal courage. 'The cut should without pity or compassion [text uncertain] penetrate into the deep tissues' in order that with a single stroke you may bare the skull.

¹¹⁶ *Praen.* K XIV.630, *CMG* V.8.1, 100. Criminal trials, like Galen's performances, were a form of public disputation. Some of our best evidence for this sort of activity comes from the Christian era: Galen's public debates with the savants of rival sects, some of which took place in the baths, seem to anticipate the face-off between two rival presbyters in the baths of Hippo Regius (the young Augustine and a Manichaean adversary), down to the presence of stenographers (Augustine *Contra Fortunatum*, *CSEL* 25). For discussion see Lim 1995: 93–8.

¹¹⁷ On the display and killing of animals in the arena as symbolising both man's control over nature (a feature which Roman beast hunts share with rodeo in the American west) and the power of the Emperor and his deputies over the world, see Wiedemann 1992: 57–67. Penal executions involving humans and animals (*damnatio ad bestias*) were modelled on animal hunts (*venationes*) in which animals attacked each other in various configurations. Both penal executions and animal hunts should be distinguished from gladiatorial combats, with which they are often confused (Potter 1999: 303–11). Galen knew the world of the amphitheatre intimately, since he had been doctor to the Imperial gladiators at Pergamum (*On Recognising the Best Physician* (*Opt. Med. Cogn.*) *CMG Suppl. Or.* iv, 105).

¹¹⁸ Another connection between anatomists and the arena can be seen in the story of how a medical crowd gathered around a recently killed elephant to dispute whether its heart contained a bone (*Anatomical Procedures* K II.619–20).

Don't be intimidated by the gush of blood: you can use hooks to twist up the sides of the scalp wound and contain the haemorrhage.¹¹⁹ Galen does not admit to feeling fear himself, but he does acknowledge that less experienced practitioners might be afraid. 'This business may seem difficult to the novice, and he might think that one animal will not suffice . . . This dissection *terrifies* the novice more by its appearance than by its actual difficulty and thus seems unpleasant . . . but let no one be *terrified*, let him *dare* the attempt.'¹²⁰ The anatomist was therefore a risk-taker, who braved haemorrhage, failure, refutation and ridicule. He made a public demonstration of his willingness and skill in shedding blood – in a word, he was a performer demonstrating charisma of a very Roman kind. On a grander and madder scale, wasn't it this charisma that the Emperor Commodus was seeking when he performed in the arena? Commodus was both Galen's patient and his Emperor. In the arena Commodus combined the roles of *munerarius* and *venator*: he provided exotic animals from the remotest reaches of the empire for his people's entertainment, and then dispatched them himself, often with a single shot, in a display that combined traditional elements of the Roman language of world domination (animals killed or eaten in large numbers, many from remote locations) with a demonstration of personal courage and precision marksmanship.¹²¹

Galen's performances went on for hours, sometimes days. Had they not exerted an intense fascination over his audience, his audience would not have stayed around. We may imagine that those who watched Galen's vivisections were comfortably confirmed in some beliefs by what they saw, while the same experience may also have permitted them to explore uncomfortable anxieties. We may imagine that Galen's spectators may have found it comforting to see the boundary between man and animal so sharply drawn.¹²² Surely it was part of the fascination of his vivisections that they enacted the dominance of reason over unreason, reason exemplified by the articulate anatomist, unreason exemplified by the brute beasts he bound and cut. The audience would also have experienced gratification as privileged consumers: like the imperial Dutch, who were also fascinated by anatomy, imperial Romans seem to have enjoyed the commodification

¹¹⁹ *AA* IX, 19 Simon, 15 Duckworth.

¹²⁰ ἀπείρω μὲν οὖν χαλεπὸν φαίνεται τὸ πρῶγμα, καὶ τις ἴσως ὑπονοήσῃ, μὴδ' ἐξαρκέσαι τὸ ζῶον. . . κατὰ γὰρ τὴν φαντασίαν μᾶλλον, οὐ κατὰ τὴν ἑαυτῆς δύναμιν ἐκπλήττουσα [ἡ ἀνατομή] τοὺς ἀπείρους φαίνεται δύσκολος. μὴ τοίνυν καταπλαγῇ τις, ἀλλ' ἐπιτολμάτω τῇ πείρᾳ (*AA* K II.693).

¹²¹ Herodian 1.15; Dio 72 (73).10.

¹²² For suggestive remarks on the arena as a venue for exploring the boundaries between human and animal see Most 1992: 403–5.

of non-citizen forms of life as one of the sweet fruits of the Empire. As they enjoyed an anatomical spectacle, socially privileged spectators might also have been enjoying at the same time an enhanced sense of their own immunity from corporal punishment. However, there was potentially a darker side to this fascination. At some level, the spectacle of vivisection could have made spectators more acutely aware of the *vulnerability* of their own socially privileged bodies to disease, accident and the horrors of ancient surgery, an experience that was in truth but little removed from vivisection.¹²³ Even torture, though not commonly practised on aristocrats, loomed large in the mind, as the letters of Seneca show. For example, Seneca imagines the fear of torture impinging itself upon one's consciousness in the form of a spectacle in the amphitheatre, a parade (*ingens pompa*) of sword, fire, chains and a mob of wild beasts let loose on human viscera.¹²⁴ An anatomical demonstration in which humans tear apart animals would thus be a satisfying reversal of this horror scenario. Besides the exploration of individual fears, there was a collective process of some kind going on. Did the dismembered animal represent perhaps the disavowal and destruction of the competitive passions and aggressive instincts of the elite spectators – so that participation at a seance focused on the destruction of an animal body became a way of ritually rejecting one's own animality? In this case, the gratifying final result would be the affirmation of civilized *communitas* enjoyed by educated men.

RHETORICS OF ANATOMY

Enhancement of community would thus be one of the paradoxical by-products of a competitive activity that emphatically articulated a rhetoric of social differentiation, separating human from animal, successful performers from the inept and the true intellectuals (*pepaideumenoî*) from phonies and upstarts. But while Galen's actions engage with this very Roman rhetoric of

¹²³ In a declamatory fantasy that explores what may have been a common fear of human surgery sliding into vivisection experiment, the young victim is immobilised preparatory to going under the knife, his bed in effect becoming an anatomy trestle ([Quint.] *Decl. Maior.* 8.19). In *Ep.* 78.18 Seneca speaks of a patient who reads while his varicose veins are surgically excised, and then segues immediately into a story of torture in which another *victor doloris* 'wins' by smiling at his torturer. This is followed by a list of medical symptoms that again segues into a description of torture and its implements. Clearly it was easy to toggle back and forth between torture and surgery in one's mind (cf. *Ep.* 66. 37). For references (mostly fourth century) to the public performance of surgery, see Bliquez 1984: 194 with notes and Nutton 1995: 18n.82.

¹²⁴ Eg. *Ep.* 14.4–6.

social differentiation, his words articulate the teleological vision of Greek science, which is fundamentally a rhetoric of unity. In other words, he takes apart the body to make arguments about wholeness, and damages its structures to make teleological arguments about its perfection. This is not as paradoxical as it sounds: in order to decide between competing theories about nature (*phusis*), one disrupts its normal operations by the application of force or violence. Sometimes only through their disruption can the causal chains of the invisible forces operating in the body be revealed. Thus Galen applies force to lay bare the underlying unity and logic of nature. His whole anatomical *oeuvre* is structured rhetorically as praise of nature (or the demiurge), whose providence and economy he hymns at every opportunity.¹²⁵

Related to the rhetoric of unity is the rhetoric of homology by which Galen justifies his anatomical use of animals. Again and again in *Anatomical Procedures* he remarks upon the homologies between human and animal anatomy, commending in particular the ape.¹²⁶ But the rhetoric of homology has its risks. If we take it too far in one direction, the human becomes an animal; but if we push it in the other direction, the animal is in danger of becoming too human. As an example of the first sort of slippage, take Galen's story of the man whose injured arm was being treated by a 'desperately stupid' physician. In one swift stroke the physician severed all three nerves in the arm and the artery as well. Discombobulated by the resulting haemorrhage, the physician failed to notice that he had paralysed the arm, until the patient cried out, 'You've hamstrung me!'¹²⁷ 'Hamstring' (νευροκοπεῖν) is a verb normally reserved for animals – it's the sort of thing one does to the enemy's elephants. Here the line between surgery and vivisection seems disturbingly indistinct.¹²⁸

As for the animal appearing too human, we would not expect Galen to discuss this possibility explicitly, since it is the sort of problem that is less

¹²⁵ Of many examples, the 'Hymn to Nature' in *The Function of the Parts* is particularly elaborate (Book III Helmreich I 173–6, translation May 1968: vol. 1 188–90). On the Platonic cast of Galen's teleology, see Hankinson 1989.

¹²⁶ E.g. 'For this reason the ape is of all living creatures the most similar to man, in its innards, its muscles, its arteries, veins, and nerves, and in the form of its bones . . .' (AA K II.219). On homologies across many species, Galen says for example that the larynx is similar in all species that have a voice. 'That is because in the bodies of these animals the intention of the Creator was uniform with regard to the plan of the vocal apparatus.' When he found the laryngeal nerve to be the same in the crane as in shorter-necked creatures, he wrote, 'I marvelled much at the lack of any trace of slackness or remissness to be found in Creation.' AA XI, 107–8 Simon, 86 Duckworth.

¹²⁷ ἐνευροκόπησάς με τὸν ταλαίπωρον AA K II.395–6.

¹²⁸ In fact Galen commonly uses the word 'operation' (χειρουργία) for both.

disturbing if left unnamed. But in some passages he appears to recommend against anatomical choices that could emphasise human/animal homology in uncomfortable ways. Quintus, for example, used to do vivisections of the testicles in a living he-goat, 'which he supported upright so that in this position it was similar to a man'.¹²⁹ Galen recommends against this, on scientific and practical grounds (since structure and function can be adequately demonstrated with a dead animal, and vivisection 'makes the affair more difficult and more troublesome . . . because blood must then necessarily burst out'). But the very fact that Galen mentions the quasi-human posture of the animals vivisected by Quintus may indicate that this was, in his eyes, a problem.

In addition to the problem of homology generating anxieties in humans, we may well wonder how it was possible to use the rhetoric of homology in the practice of vivisection without raising disturbing questions about the consciousness of suffering animals.¹³⁰ In fact Galen seems to be on the edge of entertaining the idea that the animal's cries during dissection are intentional and meaningful when he draws an analogy between the strenuous respirations of an animal being vivisected and those of a herald inhaling deeply before he makes a proclamation.¹³¹ We know that Galen did disagree forcefully with Stoic claims that animals (ἄλογα ζῷα) lack the part of the soul that feels anger or desire.¹³² Thus a fortiori he must have granted animals the lower faculty of sensation, but in his vivisection narratives pain, along with animal agency, is an absence that makes its ghostly presence felt only in the ropes on the dissecting table.¹³³ I have found a few places, however, where the logic of homology seems to be pressing Galen (or his audience) into a zone of discomfort. Galen quite consistently

¹²⁹ AA XII, 155 Simon, 124 Duckworth. On Quintus, teacher of Galen's teachers, see Grmek and Gourevitch 1994: 1503–13.

¹³⁰ Despite the fact that in his diagnostic treatise *On the Affected Parts* Galen uses a highly elaborated vocabulary to describe the kinds of pain that afflict the human body during illness, he does not generally allude directly to humans, much less to animals, feeling pain during surgery. Scarborough 2006 discusses evidence for the use of mandrake and other narcotics in ancient surgery generally, but I am still puzzled by the absence from Galen's writing of discussion of pain management or the need to restrain patients during surgery.

¹³¹ AA K II.680. ¹³² (PHP) K V.309–10, CMG V.4.1.2, 68–70, 190 [testimonia and fragments].

¹³³ One passage that may bear on the question of whether Galen attributed suffering to vivisected animals is *Anatomical Procedures* 11.10, which refers to an animal losing and then regaining consciousness as it 'becomes strong again and recovers from the transient agony in which it was plunged at the time at which the incision was made into it' (Duckworth 103). Unfortunately we have only the Arabic text at this point. It is clear from the context, however, that Galen is not interested in the vivisected animal's suffering, but in its loss and recovery of functionality (the ability to swallow).

recommends against using apes for vivisection in demonstrations of the voice and breathing apparatus such as he performed for those Roman senators. It's better to use a pig than an ape, since it cries out the loudest,¹³⁴ but also because there is something disturbing about the ape's face: 'For in all animals which have a larynx, the activity of the nerves and muscles is the same, but the loathsomeness of the expression in vivisection is not the same for all animals.'¹³⁵ And elsewhere, with regard to paralysing the thorax: 'You have seen me demonstrating such things frequently, both privately and publicly, on pigs – there's no point in using apes for such dissections, and the sight is hideous (εἰδεχθές).'¹³⁶

The word Galen uses here to describe the hideous spectacle of the suffocating ape, εἰδεχθές, he uses in only one other place, to describe a man disfigured by a hideous skin condition, the so-called 'elephant disease'.¹³⁷ εἰδεχθές seems to signal a disturbing cross-over zone between the animal and the human. Thus Galen avoided using apes in operations where homology might push the audience too far toward empathy.

To sum up: Galen's anatomical demonstrations on living animals constitute a justly famous chapter in the history of scientific method. This chapter, however, examines them as a social phenomenon. Galen's demonstrations were truth-contests. Their visual, cognitive and emotional impact (often expressed by compounds of θαῦμα and ἐκπληξις) reduced onlookers to gaping amazement. This impact enhanced the logical force of Galen's arguments, compelling competitors to acknowledge his intellectual and technical pre-eminence. Thus, on the interpersonal level, Galen's demonstrations functioned coercively. On the philosophical level, Galen was using a rhetoric traditional to Greek science, a way of arguing that involved a unitary view of nature and an emphasis on homology between animals and man. But he was also using a rhetoric of power and status differentiation articulated via the body. As played out in the flesh, public vivisection resonated with other cultural practices of the Roman empire: wonder-working competitions, judicial trials and amphitheatre entertainment. These practices involved a complex discourse about power and privilege articulated in the language of intact and mutilated bodies. Galen's anatomical performances were fascinating because of their agonistic intensity. They were fascinating because they revealed the immanence of logic in nature and dramatised the control of reason over matter, man over beast. But they

¹³⁴ AA K II.663.

¹³⁵ AA XI.104, cf. 109 Duckworth.

¹³⁶ AA K II.690.

¹³⁷ *On the Properties of Simple Drugs (SMT)* K XII.312.

were also fascinating because, beneath the publicly acknowledged game of intellectual competition, they tapped into the realm of unreason. What most spectators experienced most may have been what Galen's texts discuss least: blood, pain, fear and scopophilia itself.¹³⁸

¹³⁸ If we speculate about the role that scopophilia may have played in Galen's demonstrations, are we guilty of importing an alien modern concept into our analysis of an ancient situation – in other words, of failing to observe the distinction 'between the actors' and the observers' categories' (Lloyd 1990: 7)? Scopophilia as a modern concept involves both compulsive looking and objectification: the denial of subjectivity or agency to the object of one's gaze. It is not clear that ancient moralists operate with the concept of objectification in this sense, but at least as far back as Plato they show concern about the potential of visual experience to override rationality and arouse the baser parts of the soul. Language in which to express this concern was available to Galen, but he does not choose to use it. In fact, he even discusses the passage in Plato about Leontius and his obsessive desire to look at corpses without showing any awareness, in this passage or elsewhere, that such a desire might be stimulated by his own anatomical performances (*PHP* K V.491–2, *CMG* V.4.1.2, 346–8 with reference to Plato's *Republic* 439e–440a). The author of a Latin declamation about a case of human vivisection (unfortunately not dated – the imaginary scenario is that one twin is vivisected to diagnose his ailing brother) is clearly aware of the scopophilic fascination exerted by such a scene. He describes the victim's doctor fingering his entrails while his father gapes, questions, debates [Quintilian] *Decl. Maior*. 8.20.

Galen's un-Hippocratic case-histories

G. E. R. Lloyd

There are certain well-known minor differences, in style and content, between and even sometimes within the seven books of the *Epidemics* in the Hippocratic corpus. But individually and as a collection they contain a wealth of detailed information about the courses and outcomes of the complaints of several hundred particular patients. Scattered through the *oeuvre* of Galen, and especially in his treatise *Prognosis*, we find Galen too describing individual cases.¹ Given first Galen's unbounded admiration for Hippocrates, and the energy he devoted to his voluminous Commentaries on the *Epidemics* in particular, we might have expected Galen's case-histories to follow the patterns the Hippocratic material presented. In fact, however, his accounts of his patients diverge in several important, indeed fundamental, respects.

That discrepancy poses the chief issue I want to explore in this chapter. Why does Galen depart from Hippocratic models so radically? What is the function of the case-histories he cites in his *Prognosis* and of that treatise as a whole? Some parts of the answers to those questions seem to be clear and uncontroversial, but I shall also offer some speculative comments on the underlying methodological issue that I believe to be of some importance in evaluating Greek medical practice. This concerns the relationship between individual case-histories, the understanding of the signs and symptoms they contain and the generalisations offered as guides to the practitioner. I say 'speculative' since my conjectures go beyond the explicit remarks to be found in the Hippocratic *Epidemics* themselves, which are, as is well known, unforthcoming on those issues.

Let me elaborate my opening points in turn. First as to variation within the *Epidemics* themselves. What they all have in common is the detailed

¹ Many individual patients are referred to, usually quite briefly, in such works as *On the Therapeutic Method* and especially *On the Affected Parts*. *Prognosis*, however, contains the most concentrated collection of case-histories set out in some detail and, where not otherwise indicated, I refer to this treatise.

descriptions of many individual patients' cases, but the amount of the detail certainly varies, and not just because some patients died very soon after the onset of the disease on the second or third day. Almost always the outcome of the case – whether crisis or death – is recorded, but there are exceptions to this. Interspersed through the treatises, or sometimes set out as separate sections, there are *katastaseis*, 'constitutions', describing the climatic conditions of certain outbreaks and offering generalisations about the experience of different groups of patients, differentiating them by age, sex, physical constitution and so on. The constitutions often name individuals, but the relationship between those constitutions and the individual case-histories may be more or less close. At one end of the spectrum are the apparent cross-references between the third constitution of *Epidemics* I and the fourteen cases in the set that immediately follows, which sometimes deal with the same individuals, so it seems, as those who are named in the constitution. At the other end, the first two constitutions in *Epidemics* I do not appear to be connected to individual cases either in that or in other books. Such cases may not have been recorded, or they may have been recorded but lost. Again in the three main sets of cases in *Epidemics* I and III there is a strict adherence to the day by day record of signs, though of course not every day in every case has an entry. Elsewhere the pattern is less regular.

Galen's general admiration for 'Hippocrates' is well known and needs no documentation, but of course we have to be careful about Galen's reading of Hippocrates. He is well aware of the, or at least a, Hippocratic question, rejecting several treatises as not authentic and being cautious about the authorship of others, though if they can be ascribed to close followers of Hippocrates, to Polybus for instance, he often allows himself the licence of using them as evidence for what the great man himself taught. It is particularly relevant to my concerns in this chapter that Galen rejected *Epidemics* V and more especially VII as spurious, corrupt and of later date (K VII.854.11ff). However, he believed both I and III to be genuine works written by Hippocrates himself. He held that II, IV and VI, if not by Hippocrates himself, were by his son Thessalus, using his father's notes. In his *Prognosis* Galen calls Hippocrates 'our guide in all that is good' (CMG V.8.1, 70.16f). More particularly he says (126.7ff) that 'Hippocrates in his *Epidemics* has described all the days in each illness to its final conclusion' (the point at issue is the day of the crisis) saying that this was the case even if the crisis did not occur until the sixtieth or eightieth day.

Elsewhere too Galen says that there is nothing remarkable about his own predictions because the whole subject had been set out by Hippocrates (132.30 and 136.19) and further that the treatments he used similarly

followed Hippocrates' *technē* (138.4). He does, however, acknowledge (134.3ff) that he, Galen, himself added the theory of pulses – which was the only part of the subject that Hippocrates had not elaborated. In view of the points I shall be making about contrasts between Galen and the *Epidemics*, it is particularly striking that Galen should criticise other doctors for not counting the days correctly – indeed for not being able to count beyond seven (126.4ff.).

At first sight, as I said, we would have expected Galen to follow the models of *Epidemics* I and III (at least) especially closely in setting out his own individual case-histories. As it is, his practices diverge in four respects, first in the manner of presentation, second in the range of diagnostic signs invoked, third in the attention paid to the views of other doctors called in on the cases and fourth on the success rate claimed. These points are fundamental to my thesis concerning the discrepancy between Galen and his Hippocratic (non-) models: so I shall give them the space they need to illustrate them.

- (1) The first point is in a way the most striking and fundamental. In the case-histories in the *Epidemics* there is (as I noted) generally a scrupulous observance of the rule that the signs or symptoms that the patients present are set out day by day. Of course there is not necessarily an observation relating to every day from the onset of the complaint, not even in the most detailed case-histories and evidently not in those that may last up to 120 days. But in all seven books of the *Epidemics* very careful attention is normally paid to the *daily* presentation of the development of the complaint.

The situation in Galen is quite different. True, he does sometimes pay regard to counting the days from the onset of the disease. Much of *Prognosis* is devoted to his predictions concerning subsequent developments, both in terms of days on which crises or relapses are foretold, and even concerning the hours of the day or night on which they will occur. But even (and especially) in the most detailed accounts, like that of Eudemus in ch. 2 and 3, of the Emperor in ch. 11 and of Commodus in ch. 12, Galen does not set out the data he considers significant day by day in the formal or at least regular fashion in which that is done in the *Epidemics*. I have argued elsewhere (as others have done before me) that this mode of presentation in the Hippocratic *Epidemics* is essentially linked to the interest in critical days theory in those works. It is certainly not the case that the Hippocratic writers all sign up to a single such theory nor even to a single type of theory (one that puts the emphasis on odd and even days, for instance). Quite the reverse: we

find quite distinct theories set out *within* the *Epidemics* itself, to which others can be added from texts such as the Hippocratic *Prognostic* and the *Aphorisms*. It is all the more striking, then, one may say, that, while Galen certainly believes in the significance of critical days, and even says that Hippocrates set out the whole theory that he, Galen, merely follows, he nevertheless does not set out all the information in his individual cases in the standard day by day format. Rather, what he does is to select the key developments and the bits of critical days theory that confirm his predictions.

- (2) This takes me to my next basic point, the range of diagnostic signs invoked. In the dozen or so individual cases mentioned in the *Prognosis* Galen refers, from time to time, to the patients' feverishness, their evacuations, their pains and their psychological condition. All of those correspond to signs noted very frequently in the *Epidemics*, though it is worth remarking that, for Galen, delirium, depression, haemorrhages, vomiting and sweats are the objects of the trained doctor's *predictions* as much as the evidence he will use to predict other issues, such as the overall outcome of the disease. That is the point he makes in the opening chapter of *Prognosis* 70.1ff (and compare the prediction of the haemorrhage at 134.19ff, where Galen claims to have learnt this from Hippocrates). But in the case of Boethus' wife (ch. 8, 110.13ff) we find Galen coming to a conclusion about the case on the basis of what he felt when he massaged her hypochondrium (114.4ff). Yet this massage, in this instance, was not a diagnostic procedure (though it turned out to be helpful in that respect) but rather part of Galen's treatment, when the woman collapsed frozen stiff and her attendants just did nothing but stand around shouting and screaming (112.15ff). That is a case where a watery evacuation is included in the description of the initial phase of the complaint (112.14) as also is the swelling in the belly that the attendants mistakenly interpret as a sign of pregnancy (112.7). The age and sex of the patient are noted on several occasions and on one – the case of Eudemus – Galen insists that he needs to inspect the urine (80.9ff). In the event, however, while we are indeed told that he got to see the urine, we are not told *what* he saw: he does not describe its character, its colour, for instance, nor whether it formed a sediment or had suspended particles in it. Yet those are all points that are gone into not just in the Hippocratic *Prognostic* but very often in the cases in the *Epidemics*.

With one exception, namely, of course, the pulse, the diagnostic and prognostic signs that Galen chooses to cite are drastically reduced

by comparison with Hippocratic practice. It is not just that we have certain chapters, in the Hippocratic *Prognostic* and *Epidemics*, that set out in general terms what the doctor should pay attention to – the urine, stools, vomit, temperature of extremities, abscesses, depression, insomnia, even dreams and lots more. In the event the doctors who collected the individual case-histories do indeed practise what those chapters preach. There are some thirty-five or so types of signs identified in *Epidemics* I (ch. 10 Littré, ch. 23 Jones), 'from which we diagnose', and just about all of them figure in the detailed case-histories, some scores or even hundreds of times.²

Now in some cases Galen points out that he gets his result – his predictions are correct – not from any particular medical skill, but by common-sense reasoning. In the description he gives of the slave steward who suffered from severe anxiety because he thought his master was going to insist on a general audit of his accounts (102.29ff), Galen tells the master that there was no physical complaint (*sōmatikon pathēma*), and, once the master indicated there would be no such general audit, the steward recovered. Galen then wonders why the other doctors who had examined the slave had failed to spot that, since the truth could have been discovered by common-sense reasoning (*ek koinōn epilogismōn*, 104.10–11). Two other examples illustrate this further, the case of the woman in love (100.15) and that of the boy who was a secret eater (ch. 7). All are grist to the mill of displaying Galen's predictive skills: but they do not rely on specifically medical techniques.³

The diagnostic tool on which he overwhelmingly relies is, as noted, the pulse – the one indicator absent from the Hippocratic *Epidemics*, where Galen acknowledges that he added to what Hippocrates himself had elaborated, and to the theory of which he devoted, of course, several books. Four points are worth making with regard to his pulse-taking in the individual cases in his *Prognosis*. First, he several times stresses how important it is to be familiar with the *normal* pulse patterns of the patient in question in order to be able to spot irregularities or departures from those patterns. He does this in the case of Eudemus at 76.5ff. When other doctors take the Emperor's pulse in ch. 11 and Galen does not, his answer, when challenged to say why, is that they would

² Since I noted that Galen sometimes treats haemorrhages, for instance, as an outcome to predict, rather than as a sign to help with some other prediction, I should also remark that they also appear in the former role in, for instance, the Hippocratic *Aphorisms* (e.g. V.16, V.24).

³ Yet Galen does of course have to have decided on the physical state of the patient in all three cases I cite.

have been familiar with the normal pulse while he, Galen, was not. So they should have been in a better position to discern peculiarities. He does, of course, eventually take the Emperor's pulse and – despite his unfamiliarity with its normal patterns – is able to make a correct diagnosis, 128.9ff. Then in ch. 14, he points out that in some individuals it is normal for the pulse to miss a beat (140.9ff), a factor that could only be discovered from previous knowledge of the particular patient.

My next two points on the pulse relate to Galen's remarks on the erroneous ideas that some entertained about pulse theory and about the mistakes they make in applying it. In the case of the woman in love (100.15ff) Galen says it is nonsense (*lēros*, 104.20) to suppose that there are specific pulses that indicate being in love. He had indeed discovered that the woman in question was passionate about a dancer called Pylades when he discovered that her pulse was disturbed at the mention of his name (though she remained quite unmoved when other dancers were mentioned). What the pulse indicated was not love as such, but rather that her *psuchē* was disturbed, when the pulse retained neither its natural evenness nor its order.

Then in ch. 14 Galen remarks that even reputable doctors make big mistakes (138.24ff), misidentifying pulses as large, swift, slow, weak, strong, hard and soft when they were not, and especially being in error about regularities/irregularities, equal/unequal and collective, combined versus single, diastole. He refers, predictably enough, to his own books *On Diagnosis by the Pulses*, *On the Causes of Pulses* and *On Prognosis by the Pulse* for a fuller account. In those works we do indeed get very detailed information, including highly elaborate taxonomies of pulses of different types.

Yet my fourth and final point concerning the references to the pulse in the individual cases in *Prognosis* is that, although this is his chief diagnostic tool, and as such is repeatedly invoked as the basis of his successful predictions, there is, nevertheless, surprisingly little detail about what he felt when he took the pulses of his patients. He tells us *that* he took the pulse and that it was the basis of his predictions that turned out to be correct. But he rarely describes the pulse, rarely explains how to read its signs, rarely applies, in fact, all that theory in his treatises on the subject. Take ch. 11 on the Emperor, which is one of the passages I mentioned where Galen emphasises the need to be familiar with the patient's normal pulse patterns. Undeterred, Galen, on the Emperor's command, takes his pulse. He remarks that,

comparing the norm for each age and nature or constitution (*phusis*), it was far from showing the start of an illness, and Galen's verdict was that the Emperor's stomach was overloaded with food that had turned to phlegm before being evacuated – a diagnosis that the Emperor greets with 'that's it: it is just as you said: I feel weighed down by some rather cold food' (the Emperor doing a bit of self-diagnosis in the process).

Certainly in that case all Galen had to do was to confirm that there was no major irregularity in the Emperor's pulse, though he needed rather more than that to conclude what he does about the overloaded stomach. The only instance where Galen gives a little technical detail is Eudemus in ch. 3. Eudemus is not fobbed off by Galen's general pronouncement that all is well (he had predicted Eudemus' full recovery), but challenges him to give a detailed account (*kata meros*, 86.7f). Galen's reply is to say that Eudemus' complete recovery by nightfall was revealed to him 'by means of his pulses'. They showed that Eudemus' physique was aroused and proceeding to expel all that was noxious in his bodily humours. And how did they do that? 86.16ff gives the answer. There was an upward movement of the arteries greater than [or: even more than] the lateral extension. That is said to happen whenever the body is trying to discharge an irritant from the body. Eudemus (god bless him) does not give up and demands to know *how* the discharge will be brought about – for there are many different ways in which that might happen, vomiting, alvine evacuations, urination, sweating, haemorrhages, bleeding piles. Galen says that there is no special sign (*sêmeion*) to indicate a general evacuation from the lower belly, but in the absence of any sign indicating any of the other routes, then one could hope or expect that to happen in Eudemus' case, i.e. by exclusion of the other possibilities.

That passage certainly goes into particulars quite carefully but it is quite exceptional. It makes a little, but in no way a substantial, difference to the otherwise overwhelming impression we are left with, of the contrast between the careful, rich and varied signs set out in the cases in the *Epidemics* on the one hand and the comparatively impoverished descriptions of what Galen observed and used as the basis of his predictions in his *Prognosis* – that is of what he chose to tell us.

As a coda to this section of my discussion, let me observe that in the first extant set of case-histories in Chinese medicine, the twenty-five cases included in the biography of the second-century BC doctor

Chunyu Yi in *Shiji* 105, the pulse is, as with Galen, the key diagnostic tool. Chunyu Yi's prognoses are repeatedly introduced with the formula 'the means whereby I got so-and-so's illness was . . .', followed by an account of what he felt in the pulse. There, in those individual case-histories, there is a rich vocabulary to describe the different types of pulse, taut, big, muddy and so on, with, on Hsu's analysis,⁴ something in the region of thirty to thirty-five different pulse types differentiated. Of course you still have to know what a taut or big or muddy pulse is. Interpreting what you feel when you take the pulse will always depend on the individual doctor's skill or expertise. But that is always the case. You can never do without experience – otherwise you could become an expert physician merely by reading books. In the Chunyu Yi materials, however, the reader is not just informed about the prediction, but given the detailed basis for it (even if that may not be fully intelligible to the lay person). It is just that detailed basis that we generally lack in Galen. Yet analogous detail (though not invoking the pulse) is provided in the *Epidemics* that we might have expected Galen to follow as his model.

- (3) My third point of difference between Galen and the *Epidemics* relates to the presence of other doctors and Galen's interactions with them. In *Epidemics* I and III, where in any case references to treatments are few and far between, there are few signs, if any, of other doctors present in the individual patient's cases. There are many more references to treatments in the other books of *Epidemics*, where, as I shall be mentioning shortly, their failure is sometimes noted. Sometimes it is not clear exactly who is to blame for faulty treatment, though sometimes the writer himself takes responsibility. Other individual practitioners are not often openly named for their mistakes,⁵ although criticisms of unnamed doctors are frequent enough throughout the Hippocratic corpus, particularly in the surgical treatises. *On Joints* ch. 1 opens with a remarkable account of how this author was taken to task because he denied that a certain case was one of forward dislocation of the humerus. Both doctors and lay persons were convinced it was and they took some persuading they were wrong. *On Fractures* ch. 1 criticizes the 'whizzkid' (*sophizomenoi*) practitioners for their faulty treatments of fractured arms.

It is clear that the Hippocratic physicians operated in a competitive environment. Even so, Galen's repeated and graphic accounts, in his

⁴ Hsu 2002.

⁵ The criticism of Herodicus at *Epidemics* VI.3.18 is a notable exception.

Prognosis, of his set-tos with other doctors on individual cases are exceptional. To be sure, he protests that he wanted to avoid disputes, the battle of words that looms in the case of Eudemus at 78.13 for instance. But in one case after another he is, in practice, involved in offering and defending his diagnoses and therapies in the teeth of the opposition of rivals.⁶ The other doctors whom Galen attacks include (1) Eudemus' regular physicians (76.22); (2) the various 'most distinguished' doctors Eudemus later calls in to discuss his case (the best in the city, 78.11), (3) a couple of particular opponents (Antigenes and Martianus) who were convinced Galen was wrong and his treatment was bound to fail (82.13ff, 84.2ff); (4) the palace doctors who failed to cure the steward of Charilampes at 94.7ff; (5) more palace doctors (or the same ones) who failed to diagnose and so wrongly treated Diomedes (94.9ff) (these included the 'most reputed of them'); (6) the unnamed doctors who failed to spot what was the matter with the woman in love and the steward whose accounts were open to challenge (104.9); (7) a group of doctors and attendant women who were involved in the case of Boethus' wife,⁷ (8) the Emperor's own doctors (ch. 11, 126.17 and 25) including the three doctors who examined him at 128.1; (9) the Methodist doctor in Annia Faustina's entourage in ch. 12, 132.8ff; and (10) the doctors who prematurely prescribed venesection in ch. 13, 134.9ff. Galen is less severe in his criticisms of those such as the chamberlain Peitholaus who took a hand in treating Commodus' tonsillitis in ch. 12, 130.19f, though in another case, where he is confronted by a patient who refuses to believe his predictions, he comments on his contentiousness (*philoneikia*). This is Sextus who wanted to prove Galen wrong by *not* having the relapse predicted. He undertakes his own treatment, tries to disprove and even boasts he has disproved Galen's prediction (122.4ff) only, in the event, to be proved wrong himself.

All of this makes Galen extremely unpopular, by his own admission. He comments at 116.19 that the massive payment he received from Boethus for curing his wife just increased the jealousy, *phthonos*, of the doctors before whom Boethus sang the praises of Galen. When Annia Faustina compares Galen most favourably with her Methodist doctor, Galen remarks that her praise made him yet more hated by

⁶ This is also a frequent feature of many of the cases mentioned in *On the Affected Parts* (e.g. K VIII.51.4ff, 55.4ff, 194.4ff, 213.10ff, 258.18ff, 356.8ff) and *Methodus Medendi* (e.g. K X.504.11ff, 535.17ff, 673.6ff) where, of course, his main bugbears are often the Methodists and Thessaleans in particular.

⁷ Ch. 8, 110.25 *huperêtousais gunaixin*, then *therapeuousōn gunaikōn* at 112.7, including her chief nurse at 112.10, as well as other *iatroi* at 112.8.

doctors, 132.25. The doctors he has to deal with in Eudemus' case would far prefer Galen to be proved wrong – even if this meant Eudemus died – than that he should succeed: they pray to the gods that Galen will fail, 82.29. He ends that case with a chapter (4: 88.14ff) most of which is taken up with a conversation he has with Eudemus about the illwill (*kakonoia*, 90.7), malice (*kakoētheia*, 90.9) wickedness (*ponēria* and cognates at 90.11, 15 and 17 and *panourgia* and cognates at 90.18, 20, 23, 27) of the doctors in Rome. Galen tells us that the Emperor kept saying that he, Galen, was first among doctors and unique among philosophers – the contrast being with those described as avaricious (*philochrēmatoî*), contentious (*philoneikoî*), vain (*philodoxoî*), jealous (*phthoneroî*) and malicious (*kakoētheis*) (128.29f). One tactic we are told these unsavoury characters used against Quintus (ch. 1, 70.23ff) is to accuse him of murdering his patients. Another is actually to set about poisoning a doctor who stood in their way and excited their envy (70.22). At 92.21 Galen tells us that Eudemus himself warned him to expect poison plots against him, citing the case of a young man who had actually been poisoned for being a successful doctor some years earlier.

- (4) This takes me to my fourth and final point of divergence between Galen and the *Epidemics*, namely on the matter of the successes claimed. It is well known that a high proportion (some 60 per cent) of the individual cases described in *Epidemics* I and III end in the death of the patient. In several cases the writer observes that nothing could be done to help the patient.⁸ That is in line with plenty of other instances in the surgical treatises, the *Aphorisms* and elsewhere, where the doctors confess themselves to be at a loss.⁹ But it is even more remarkable that we have a sequence of cases in *Epidemics* V where the writer accepts that his own treatment was faulty – in several of which the patient dies.¹⁰

The contrast with Galen is a stark one.¹¹ In the *Prognosis* all his diagnoses/prognoses prove to be correct and all his treatments are successful. The nearest he gets to acknowledging that he is not omniscient is when at the start of a case he offers alternative diagnoses. This happens at 100.22 in ch. 6, the case of the lovesick woman, and in ch. 10, Sextus, where Galen is confident that the first phase of the disease will not last

⁸ For example *Epidemics* III case 9 of the first series and case 5 of the second.

⁹ See Lloyd 1987: 124ff. ¹⁰ Lloyd 1987: 126f at notes 69–71.

¹¹ In other treatises, however, Galen does occasionally remark that patients in his care did not survive. This is true particularly of a group mentioned at *On the Affected Parts* VIII.291.4ff.

beyond the seventh day, but says that, if there is a crisis on the sixth, there would be a relapse, while, if it occurs on the seventh, the crisis will be complete (120.24ff). In both these cases *one* of his predictions is proved correct in the event. As for his treatments, we may note that, in response to the initial treatment of Boethus' wife, ch. 8, 112.1ff, her situation deteriorates, and Galen had been partly responsible for that, although in the longer term he effects a complete cure. Similarly in ch. 13, 138.2ff, Galen's initial attempts to stop the natural bleeding of the young man were unsuccessful – though applying a cupping glass eventually does the trick.

Elsewhere, throughout *Prognosis*, there is no suggestion that the treatment is not 100 per cent successful. So much so that he has to counter the suspicion that he is getting his results by some kind of trickery, that his prognostications are divinations, that he is some kind of magician (*goēs*, 70.14, 72.4, 124.17 etc.). He is actually quite ambivalent on that score. When Eudemus compares him with the Pythian oracle (88.1ff) Galen does not contradict him. He appears to accept the label *mantis* when Boethus uses it (ch. 7, 106.24, cf *manteuma* at 106.29, *mantikē* 108.21, *manteōs thespisma* at 108.1) and even those of *paradoxopoion* and *paradoxologon* in ch. 8, 110.16ff. With Martianus, Galen's response is rather different (88.20ff). Martianus cites the second book of the *Prorrhetic* of Hippocrates (Martianus evidently treats it as an authentic work) where it is written: 'I will make no prophecies in these matters' (I IX.8.2). To that Galen replies that Martianus had got the information about Galen's 'prophecies' from Eudemus, not from him (though he might have quoted back to Martianus the very next phrase in *Prorrhetic* II that contrasts marvellous divinations with proper signs, ones that the author will set out to enable inferences to be made about which patients will recover and which die).¹² Obviously in one way Galen's prognoses do foretell the future, and so they have that in common with divinations. But Galen, while relishing the reputation of being a wonder-worker, would always insist that his predictions and successful treatments are all based on a sound knowledge of the medical art. Nevertheless the image he presents of himself, in his *Prognosis*, as producing one success after another, in prognosis and in treatment, is miles away from the impression that the writers of the Hippocratic *Epidemics* often gave of the limits of their own ability to produce a cure or even to alleviate the conditions of their patients.

¹² Lloyd 1987: 42 and n. 137.

So my four principal points of divergence between Galenic and Hippocratic case-histories lead to the next question, namely why this should have been so. Why is there this discrepancy between Galen's actual practice and the practice of the great name to conjure with who is Galen's 'guide in all that is good'? There are, I suggest, two parts to the answer, one fairly straightforward, the other more speculative.

The straightforward element relates to the purposes of Galen's treatise *Prognosis* – that is, the chief context in which he there sets out detailed case-histories, some dozen or so of them. Yet while in that respect Galen's work resembles the *Epidemics*, it is quite unlike those Hippocratic treatises in that its principal aim is to provide an apologia or defence of his prognostic practice. For that purpose it is understandable that he should concentrate on his successes. However, from another point of view, he would have gained more credibility with some if he had followed the advice of the Hippocratic *On Joints* ch. 47, which deliberately includes accounts of failures – and why they were such – because they too provide useful instruction, just as successes also may.

Galen's *Prognosis*, on that view, is closer to the Hippocratic work also called *Prognostic*, which starts off with a famous multiple justification for the practice of prognosis. One aim is to increase the doctor's reputation. Another is to win the patients' confidence: 'Patients will more readily entrust themselves to his care if he can tell them not just the outcome of the disease, but its past course and their present condition.' The doctor should do this ideally without prompting by the patients themselves: then he will justly be an 'object of wonder'. Yet one other aim of *Prognostic* is very un-Galenic. If the doctor has been able to predict an unfavourable outcome to a case from the outset, then he will not be blamed for failure – or at least that is what is claimed. But *such* a function for prognosis did not enter into the picture that Galen presents. His *Prognosis* is unadulterated self-advertisement, and that, one may believe, goes a long way towards explaining both the fourth of my divergences (the emphasis on success) and maybe also the third (the tone of his interaction with other doctors).

The second, more speculative, element in my hypothesis about the discrepancies between Galen and the *Epidemics* takes us to a more interesting, indeed fundamental, methodological issue. What is the epistemological status of the individual case-history? Let me rephrase the question. How does the doctor establish the connections between signs and signifieds that are essential for his diagnoses (of causes) and prognoses (of outcomes)? Of course, doctors are taught those connections in their medical training by other doctors with or without (usually with) the benefit of considerable

bodies of literature. That is still the case. There are handbooks such as French's *Index of Differential Diagnosis*,¹³ working forwards from the signs the patient presents to the identification of the disease he or she is suffering from. French's discussion of haematuria – blood in the urine – for instance subdivides what it may signify under three main headings: (1) infections of some part of the urinary organs; (2) diseases of the neighbouring viscera involving the urinary organs; and (3) general diseases. Then there are handbooks that work in the opposite direction, from the known or supposedly known characteristics of diseases to determine which the patient's symptoms match. Wheeler and Jack,¹⁴ for instance, deal with specific infectious or contagious diseases such as malaria, cholera and typhus by setting out the etiology, morbid anatomy, symptoms, complications and treatment.

Those two main movements of thought can already be exemplified in the Hippocratic corpus, although on the basis of a very different understanding of diseases. *Prognostic* ch. 12, in particular, sets out the signs in the urine and what they signify, discussing the significance of urine of different colours, of the sediments or suspended particles observed and warning the reader at the end of the chapter to distinguish cases where the bladder or kidneys themselves are diseased from those where the urine indicates a general condition of the patient.¹⁵ Conversely treatises such as *On Internal Affections* attempt a general classification and description of diseases and work *from* that taxonomy (for instance of the different types of *phthisis* or 'consumption', or of diseases of the kidneys) *to* the signs that indicate them. The proliferation of diseases in that treatise has often been taken to be a sign of its Cnidian affiliations, but I shall leave that issue to one side.

The big question is, what was the basis for the connections proposed? How did the Hippocratics or any other Greek doctors arrive at their understanding of the signs they encountered and what they signified? From what other doctors told them, of course: but also from their own and other doctors' clinical experience. Here is where the books of the *Epidemics*, especially I and III, are so valuable. They give us our best chance to look over the shoulders, as it were, of the doctors as they tussle with these problems. The third Constitution in *Epidemics* I with the 14 case-histories that follow are especially precious. Although there are, as I said, certain discrepancies between these two bodies of material that suggest editorial interference, scribal error or carelessness by the compilers, or some combination of those

¹³ Bouchier *et al.* 1996. ¹⁴ Wheeler and Jack 1963.

¹⁵ Cf *Aphorisms* IV.75–81 that sets out seven examples where the urine only indicates an affection of the bladder or the kidneys.

factors, there are significant cross-references that show that the two bodies of material are to be read together.

The Constitutions pay repeated and intense attention to signs and signifieds, noting for instance where urine of a certain character was followed by dysentery (ch. 8 Littré, ch. 17 Jones), the different experiences of those who suffered from *ikteros* ('jaundice') and especially to the signs that indicated either recovery or death. Ch. 8 (Littré) in the Third Constitution says: 'In relation to the *kausoi*, ardent fevers, those who had a good and copious nosebleed were most likely to survive.' 'Indeed I know of no one who died in this Constitution if there was proper bleeding.' The next chapter remarks on the great variety of diseases but sums up the signs of recovery as follows: 'In this Constitution there were especially four signs that signified recovery: a proper haemorrhage through the nose, copious urine with an abundant and good sediment from the bladder, disordered bowels with bilious evacuations at the right time, and the onset of dysentery.' Conversely the deadly signs had been identified as acute fever with slight rigors, sleeplessness, thirst, nausea, sweats about the forehead and collarbones (though not all over), delirium, fears, depression, very cold extremities, that is the toes and hands and especially the latter. We are told, too, that exacerbations were on the even days.

Partial or apparent exceptions to those generalisations are duly noted. There are three patients who died after a nose-bleed, but that was only a slight one. One of these is named Philiscus, whose case is the first in the set of fourteen that follow the Constitution, who presents quite a few of the 'fatal' signs, including sleeplessness (third day), cold extremities (fifth), black urine (third and fifth though on the fourth it was of a better colour).

Now it is obvious, I would submit, that the individual patients' experiences, as they are recorded in detail in the case-histories, and commented on in the Constitutions, provide the authors with much of the primary raw data on which their generalisations could be, and were, based. Moreover those generalisations are often carefully qualified, as holding for the most part, or for particular groups of patients, not universally, and many are explicitly tied to the Constitution under review. Yet statements about what particular signs or syndromes portend in general are common enough in the *obiter dicta* of the *Aphorisms*. That represents a further level of generalisation, insofar as the connections are claimed to hold unqualifiedly. *Prognostic* ch. 25 explicitly states that bad signs are bad in every year and everywhere in the world, in Libya, Delos or Scythia, and so too good ones are always good.

The movement of thought is broadly what we should call inductive. But there are of course notorious problems with inductive inference. In any empirical inquiry it is impossible to pass all the instances under review (as in so-called complete induction) and at any moment a counter-instance may crop up to defeat the generalisation (as when black swans were discovered in Australia). Nevertheless as Burnyeat¹⁶ pointed out, in a classic paper on non-deductive inference, the sign may still provide good evidence for the conclusion, even when the conclusion cannot be validly deduced from it. Burnyeat was stimulated to that analysis by a consideration of what Aristotle had to say about signs, where he distinguished between *tekmēria*, signs that yield demonstrative conclusions, from *sēmeia* in the strict (specific) sense that do not. Smoke is a *tekmērion* of fire, since smoke is never produced without fire: fire is indeed the cause of smoke. So we can get *tekmēria* where there is a universal causal connection between signified (necessary cause) and sign (effect). But a sallow complexion (to take another of Aristotle's examples) is only a *sēmeion* of pregnancy, since sallow complexions may have many other causes. Such an inference, Aristotle says, can always be refuted: yet he acknowledges that it may be true of a particular woman that her sallow complexion results from her being pregnant. So the inference to pregnancy does not follow: yet may be a reasonable inference nevertheless. However, he also remarks that in rhetoric inferences from signs commit the fallacy of the consequent: if A then B: but B so A (*SE* 167b1ff).

Of course the Hippocratics did not have the benefit (or the disadvantage) of Aristotle's analysis, let alone of Burnyeat's. But we certainly find them wrestling with the key problems of the multiple causes of the same effect (as we saw in *Prognostic* on urine) and of discriminating between causes and mere concomitants or coincidences (*VM* 21, *Vict.* III 70, *Acut.* II, Littré, 43 Jones). Their problem was to extract as much reliable information as they could from their experience, in order to make their sign inferences as robust as possible. And – this is my key point – their basic data included, especially, the detailed individual case-histories whose records they kept so meticulously. Maybe a single sign was not reliable, but then a combination, a syndrome, might be, or maybe a whole set of factors, climatic conditions and the like, had to be taken into account. The individual case-histories could be mined over and over again for possibly significant details.

¹⁶ Burnyeat 1982.

What is Galen's attitude to these issues? Remarks scattered through his Commentaries on the *Epidemics* and in other treatises are very revealing. At one point in *On Critical Days* (K IX.78I.4ff) he is inclined to treat the evidence in the *Epidemics* as showing us Hippocrates at work *before* he had arrived at all his general theories on such subjects as critical days – when he was testing those theories against experience. Yet in his Commentaries on the *Epidemics* he firmly distances himself from the view he ascribes to Quintus (CMG V.10.1, 6.6ff). Quintus, it seems, had treated the *Epidemics* and other Hippocratic works as simply accounts of clinical experience having nothing to do with the analysis of causes – a view Galen associates with that of the Empiricists. That is quite wrong, Galen protests – adamant in his rejection of any Empiricist reading of Hippocrates. On Galen's view Hippocrates' account is essentially geared to the investigation of causes.

This comes out in remarks he makes when he turns to the individual case-histories in his Commentary on *Epidemics* I – though he takes an inordinate amount of time to get there. Well into the third book of his Commentary, Galen has still not got to the end of the Constitutions. He finally gets to the individual case-histories at CMG V.10.1, 126.11ff. There he distinguishes – as he does elsewhere – two routes of discovery, *heuresis*. These turn out to be (1) deductive, through a *logos* that deals with the universal, and (2) one through experience, which proceeds inductively, as we should say, from the particular to the universal. Yet Galen's preference for the former is clear. The cases provide *paradeigmata* and he notes that the doctor's medical interventions will always be on individual cases. They serve the purpose of training, *gymnasia*, 126.24. But for the medical *technē* to be a *technē* it must be able to give a rational account of cause-effect relations, and that means proceeding deductively from the universal to the particular.

In the background, surely, is the model that Aristotle too set out for what it takes for a science to be a proper science. Even when Galen is not trying to demonstrate conclusions *more geometrico*, he insists that the doctor should give deductive causal accounts.

So my speculation, or hunch, is that the divergences between the case-histories in the *Epidemics* and Galen's reflect a deep-seated methodological division. Many of the Hippocratics, my claim is, are grappling with inductive reasoning. What can be inferred more or less reputably from the signs they encountered? For that it is essential that the signs and syndromes are presented in the greatest detail. That means that the individual case-histories, the raw data for the generalisations about signs, have to be presented in detail too. Galen's *Prognosis* has a different strategic purpose,

to validate his claim as the most successful prognosticator and therapist of his time. But his accounts of how he got to his conclusions generally proceed at a level of some generality. He already *has* the *theory* that tells him what those conclusions should be, by which I mean the whole gamut of his medical doctrine, including both his views on the techniques of diagnosis and prognosis and his account of the causes of diseases. Given that he has (he would claim) comprehensive explanations to hand on both these issues, it is not necessary (he feels) to go into detail. He does not need to justify his humoral theory, for instance, although references to Hippocrates add to its authority. He is not interested in setting out the daily record, and he is not concerned to explore what he can extract from such by way of reliable inferences. He has *already* extracted his connections. The job of validating the theory is done in such treatises as the books on pulses. By the time we get to the *Prognosis*, they can be taken as given. Galen may express the greatest admiration for Hippocrates: but the method he adopts is, at points, very much at odds with what we find in some works that he took to be by his great predecessor.

CHAPTER 6

Staging the past, staging oneself: Galen on Hellenistic exegetical traditions

Heinrich von Staden

INTRODUCTION

The staging of an authorial self in multiple venues, contexts and media (including visual demonstration, oral performance and written text) was neither a uniquely Galenic nor a uniquely second-century phenomenon. In medicine it reaches back at least to the Classical period in Greece. But, within extant Greek and Latin technical literature, many of the better attested, more diverse and more colourful acts of authorial self-presentation are Galen's. Through public anatomical dissections and vivisections of animals and through multiple self-presentations in his prolific literary production, he actively participated in the 'display culture' of his time, even while deploring it.¹ Deftly adapting different literary forms to different audiences, purposes and subjects (and at times liberally contaminating genres),² he conspicuously inserted himself into almost every part of his *oeuvre*, thereby ensuring that he himself became a vivid, forceful authorial presence in his works. Furthermore, for all his insistence on the possibility of arriving at an objective science of the human body, and despite his effort to identify criteria for establishing a univocal 'scientific' language that would be suitable to communicate such a trans-subjective, transpersonal science,³ he often departed from the depersonalised, self-effacing style of some – but far from all – earlier authors of technical literature, resorting instead to a personally charged rhetoric. The result is a multi-dimensional staging of his authorial selves that pervades his massive extant corpus to a degree matched by few, if any, ancient writers of technical texts.

The public crafting of the self, however, often involves the staging of others, and especially of one's difference from or similarity to others, as has been pointed out often enough in modern scholarship on alterity. Galen is

¹ See Bowersock 1969: 59–76; Kollesch 1981a, 1981b; Debru 1994; von Staden 1994; Gleason 1995; Manetti 2000a; von Staden 1997b.

² See von Staden 1998: 88–94. ³ See Hankinson 1994; von Staden 1995; Barnes, 1997b.

no exception: he frequently defined his competence, his doctrinal identity, his scientific method, his medical practices, his language, his authority, his discoveries, his 'clinical' successes and his professional behaviour – in short, the contours and content of his professional *persona* – in terms of their similarities to, or differences from, those of others. In Galen's works, these uses of the other are characterised by the kinds of elision, supplementation, distortion and expropriation that are all too familiar from many writers, ancient and modern. At the same time, he often concretised the historicity and particularity of his 'others', identifying them by name, locating them in place and time, quoting them verbatim and at length, in short, putting on display a vast, detailed historical knowledge of his 'others' and thereby establishing an aura of authority and historical credibility. These 'others' include not only numerous contemporaries whom, for the most part, he claimed to outshine, but also a significant array of classical and Hellenistic authors.

Galen's world of knowledge, accordingly, is not only the world of second-century medical, philosophical, literary and rhetorical culture, or of a few major Classical authorities such as Hippocrates, Plato and Aristotle, but also a world densely populated by actors from the Hellenistic age. Some of these – the philosophers Theophrastus, Epicurus, Zeno, Chrysippus and Posidonius; the poets Callimachus, Theocritus and Aratus – are among the Hellenistic authors known to all Classicists, but most are far less well known. Galen reported the discoveries, theories, practices, disputes, inadequacies and errors of these 'lesser' Hellenistic figures, often in considerable detail, sometimes even to the extent that a single quotation from a Hellenistic author runs on for many pages.⁴ Even as Galen presented himself as a scientific frontiersman who was making significant contributions to a science of the human body (for instance, his justly acclaimed discovery of the recurrent laryngeal nerve and his spectacular vivisectionary experiments on the ventricles of the brain),⁵ he repeatedly defined himself both against and with this distant past, engaging with numerous texts written centuries earlier. In practically every domain that he entered, a preoccupation with the past is visible; but it lies in the very nature of the exegetical genre that some of Galen's more sustained critical evocations of a distant past appear in his extensive extant commentaries on Hippocratic texts.

A fundamental dimension of Galen's commentaries is an almost constant intertwining of two investigative strands. On the one hand, he tried

⁴ See e.g. Fabricius 1972, for numerous examples from Galen's pharmacological treatises.

⁵ See Rocca 2003: 171–96.

to recuperate, interpret, corroborate and occasionally correct the thought (γνώμη) and meaning of the historical Hippocrates, in part to present himself as a new, less obscure, more accurate, more complete Hippocrates. On the other hand, he engaged intensively with numerous earlier exegetes, not only in order to establish himself as the supreme interpreter of Hippocrates but also, he claimed, to aid the recovery of the original Hippocrates. He cited Hellenistic and post-Hellenistic commentators, lexicographers, grammarians and 'editors' who had worked on Hippocratic texts, introducing some by name, others anonymously. Furthermore, though he declared himself opposed to investigating 'historical' questions in medical commentaries,⁶ insisting that only what is true and useful (τὸ χρήσιμον) for the practice of medicine should be introduced, he nevertheless relished reporting and re-adjudicating arcane disputes between Hellenistic exegetical predecessors and exhibiting his remarkable knowledge of the colourful history of Hippocratic exegesis during the Hellenistic centuries, even when such past disagreements did not meet his criterion of usefulness.⁷

The historical time and space between Galen's commentaries and the Hippocratic texts is accordingly not left empty. Galen filled it with numerous shards from the scattered ruins of the remarkably rich tradition of pre-Galenic interpretation of Hippocratic texts, partly in the service of positioning himself historically as the optimal interpreter and fulfiller of Hippocratic medicine.

In this context it should be noted briefly that comparing the 'act' of interpreting a text to 'acting' on stage is not alien to Galen's own thinking: the figuration of the Hellenistic exegesis of Hippocratic texts as theatrical performances is well attested in his commentaries. He depicted interpreters as 'wearing an actor's mask' (πρόσωπον) or as playing a role in a play (ἐν δράματι τὸ περικείμενον πρόσωπον ὑποκρίνεσθαι).⁸ At times they are scolded for being too incompetent to act a role successfully or reprimanded for wearing the wrong actor's mask. Indeed, in a chapter devoted to the diagnosis of bad exegesis and entitled 'On Those Who Interpret [Texts]

⁶ See Manetti and Roselli 1994: 1562, 1572 n. 152, 1601 n. 277.

⁷ Moreover, to interpret Hippocratic texts he quoted and referred to numerous non-medical authors, for instance, to historians such as Herodotus, Thucydides and Xenophon; to orators such as Demosthenes and Dinarchus; to philosophers ranging from Thales, Anaximenes, Heraclitus, Xenophanes, Critias, Parmenides, Anaxagoras and Democritus to Epicurus and the Stoics; to poets from Homer, Hesiod, Archilochus, Pindar and Semonides to Callimachus and Aratus; and to Alexandrian Homeric criticism. On Galen's range of references, see also Nutton's chapter in this volume.

⁸ Galen, *Hipp.Epid. III* 1.4 (XVIIA. 515 K; *CMG* V.10.2.1, V.21.29–30 Wenkebach).

Badly',⁹ Galen identified any commentator's failure to don an appropriate mask, that is, to adopt a dramatic role that is commensurate with the principle of interpreting the author out of himself – later labelled the *Homerum ex Homero* principle – as a cause of 'bad commentary'. The appropriate dramatic role for a commentator to assume, he said, is that of a Hippocratic when one is interpreting a Hippocratic book, rather than trying to explicate the text in terms of the doctrines of any post-Hippocratic 'school'. So too one should play the role of a follower of Erasistratus or Herophilus or Asclepiades when interpreting one of their works.¹⁰

In his lengthy account of the Hellenistic debate about the authenticity and meaning of the enigmatic clusters of letter-symbols appended to individual case-histories in some ancient manuscripts of *Epidemics III*, Galen repeatedly depicted the centuries-long history of this exegetical controversy as a drama in several acts that could be viewed either as a tragedy or a comedy. He explicitly referred, for instance, to three of the arguments, the details of which need not detain us here, as 'the first part', 'the second part' and the 'third part' of a play (δρᾶμα). After dealing at length with the third act of this drama, he remarked that 'since it has become a play in three acts, it is perhaps better to bring this play to a close right now, so that we do not spend more time on the addition of the two subsequent acts of the drama, acting, in them too, roles either in a tragedy or in a comedy'.¹¹ Galen's stage is thus not only second-century Rome but also the stage on which Hellenistic interpretations of Hippocratic texts were performed – and the stage on which he re-enacted their exegetical dramas, into which he now inserted himself as a master actor of the interpretative act.

STAGING THE EXEGETICAL PAST: 'PRIVATE' AND 'PUBLIC'

Not all of Galen's commentaries have the same density and specificity of historical reference and historical self-definition. Galen himself acknowledged this, at times indicating that the variations are due to differences in

⁹ *Hipp.Epid. III* 1.4 (XVIIA.496–524 K; CMG V.10.2.1, 10–26 Wenkebach). For the title of this chapter, περί τῶν μοχθηρῶς ἐξηγουμένων, see 10.9 (Wenkebach); for τὴν τῶν φαύλων ἐξηγήσεων, see 10.25 (Wenkebach).

¹⁰ *Hipp.Epid. III* 1.4 (XVIIA.515 K; CMG V.10.2.1, 21.30–22.3 Wenkebach). It is noteworthy that, Hippocrates aside, the authors to be interpreted are three principal Hellenistic medical writers: Herophilus, Erasistratus and Asclepiades. On Empiricist commentators who, 'as in a play, preserve the role proper to the mask they are wearing', see XVIIA.506 K (CMG V.10.2.1, 17.2–3 Wenkebach).

¹¹ *Hipp.Epid. III* 2.9 (CMG V.10.2.1, 94.19–21 Wenkebach). Much of this passage has been restored on the basis of Hunain's ninth-century Arabic translation. On this controversy about the letter-marks see also nn. 65, 67 below.

his intended readership or audience. As will be suggested later, however, the truth might be less straightforward. In his autobiographical work *On My Own Books*, he used the expressions οὐ πρὸς ἔκδοσιν and ἰδίᾳ to characterise works of his that were not written with a view to being 'given out' for wider circulation, while using πρὸς ἔκδοσιν and πρὸς κοινὴν ἔκδοσιν to refer to works that he composed for a larger public.¹² As has been shown elsewhere,¹³ Galen used *ekdosis* in three principal senses: (1) a 'giving out' of one's own work for wider diffusion ('publication'); (2) a particular 'public' version of a text put into circulation not by its author but by a later 'editor' (whether a *grammatikos* or a *iatros*), who usually applied critical philological principles to the constitution of the text; or (3) the original author's second, revised 'edition' of his own text. These three uses of *ekdosis* have in common that they all entail the public dissemination of a text.

Galen applied the 'private–public' distinction to his commentaries too.¹⁴ It is in this context that he launched his account of his commentaries in *On My Own Books* with the following remark: 'I did not expect that any of the works of mine that I gave to friends, and especially not any of my exegetical works on Hippocratic treatises, would have many readers. You see, in the beginning I wrote commentaries on these treatises as an exercise for myself.'¹⁵ Among his commentaries *not* written for wider circulation (οὐ πρὸς ἔκδοσιν), Galen mentioned especially those on the Hippocratic works which he deemed 'most authentic and most useful' (γνησιώτατα καὶ χρησιμώτατα).¹⁶

¹² *Lib.Prop.*, proem. 6–12, ch. 9.1–7, and ch. 14.9–14 (XIX.10–11, 33–5, 41–2 K = *SM* 2.92.11–93.16, 111.10–112.21, 117.20–118.14 Müller = 135.16–136.22, 159.10–160.21, 166.1–19 Boudon-Millot). Throughout, I have adopted the revised chapter divisions of this treatise introduced by Boudon-Millot in her recent critical edition (Boudon-Millot, 2007a: 134–73). Galen applied the distinction 'public–private' to other spheres of his activity too, such as his dissections and vivisections; see von Staden 1994; 1997b.

¹³ For the Galenic evidence see von Staden 2006: 20–5; for non-Galenic uses of *ekdosis* see Dorandi 2000: 77–128.

¹⁴ For ἰδίᾳ, οὐκ ἰδίαν ἔξιν, and πρὸς κοινὴν ἔκδοσιν in the chapter on his commentaries, see *Lib.Prop.* 9.2, 9.7 (XIX.34, 35 K = *SM* 2.111, 112 Müller = 159.18–20, 160.20 Boudon-Millot); cf. n. 15 below.

¹⁵ Galen, *Lib.Prop.* 9.1 (159.10–13 Boudon-Millot; cf. XIX.33 K and *SM* 2.111.10–14 Müller): οὐτ' ἄλλο τι τῶν ὑπ' ἐμοῦ δοθέντων φίλοις ἤλπισα πολλοὺς ἔξιν οὔτε τὰ τῶν Ἱπποκρατείων συγγραμμάτων ἐξηγητικά· τὴν ἀρχὴν γὰρ ἑμαυτὸν γυμνάζων ἐγεγράφην εἰς αὐτὰ ποθ' ὑπονήματα. Iwan von Müller's conjecture συγγραμμάτων (for συγγράμματα, transmitted by A [Ambrosianus gr. 659, formerly Q 3 Sup.], is confirmed by the recently discovered fifteenth century cod. Vlatadon 14. Cornarius' conjecture ἑμαυτὸν receives support from Hunain's ninth-century Arabic translation, but it is not confirmed by the Greek transmission of the text (αὐτὸν οὐδὲν A, ed. Aldina: οὐδὲν αὐτὸν Vlatadon 14: [αὐτῶν] οὐδὲν πρὸς ἔκδοσιν ἀλλ' ἑμαυτὸν conī. Müller). The transmitted text is not unproblematic; see Müller, praefatio, LXXXII, and Boudon-Millot, app. crit. ad loc.

¹⁶ Galen *Hipp.Epid. III*, 2 proem. (XVIIA.577 K = *CMG* V.10.2.1, 60–1 Wenkebach); *Lib.Prop.* 9.5–6 (XIX. 34–5 K = *SM* 2.112 Müller = 160.8–17 Boudon-Millot).

1. *Fractures* (an extant commentary in three books);¹⁷
2. *On Joints* (an extant commentary in four books);¹⁸
3. *On Wounds* (a lost commentary that consisted of one book);¹⁹
4. *On Wounds in the Head* (a lost commentary in one book);²⁰
5. *Aphorisms* (an extant commentary in seven books);²¹
6. *Prognostic* (an extant commentary in three books);²²
7. *Epidemics I* (a commentary comprising three books, extant for the most part in Greek; Hunain's Arabic translation of the rest is extant);²³
8. *On Regimen in Acute Diseases* (Galen did not consider its so-called *Appendix* [Littre II, 394–529] authentic, but he argued that it nevertheless contained many Hippocratic doctrines, and he therefore explicated it too in his largely extant commentary in four books).²⁴

¹⁷ Most of the Galenic works referred to subsequently in this chapter (as *On Fractures* etc.) are commentaries on Hippocratic works with these titles. They are cited in the Galen section of the Index of this volume as *On Hippocrates' 'Fractures'* (*Hipp. Fract.*) etc. Other Galenic works cited here are identified by the standard English or Latin titles given in the Note on Conventions at the start of the volume and the Galen section of the Index at the end. XVIII B.318–628 K. The extant version is, however, incomplete (breaking off after *Fract.* 37). For *Hipp. Fract.* see *Lib. Prop.* 9.6, 9.9 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.13–17, 161.2 Boudon-Millot); see Deichgräber 1933: 606; Roselli 1991; Manetti and Roselli 1994: 1531–5; Mansfeld 1994: 135–6; Roselli 1996; Manetti and Roselli 1996, 2000; Ihm 2002: 103–4 (no. 71). Galen's exegeses of *Fract.* and *Artic.* formed a single work, but in *Lib. Prop.* he lists them as distinct entities, one comprising three books, the other four, rather than 'a commentary in seven books'.

¹⁸ XVIII A.300–767 K. See *Lib. Prop.* 9.6, 9.9 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.14–15, 161.2–3 Boudon-Millot); Roselli 1991; Manetti and Roselli 1994: 1531–5; Mansfeld 1994: 136–7; Roselli 1996; Manetti and Roselli 1996; Ihm 2002: 95–6 (no. 61). See preceding note.

¹⁹ Galen *Lib. Prop.* 9.6, 9.10 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.13–17, 161.5–7 Boudon-Millot); *Hipp. Epid.* (CMG V.10.2.1, 61.4); *Hipp. Fract.* (XVIII B.538.14 K). See Roselli 1996: 375, 380; Anastassiou and Irmer 1997–2006: vol. II.1, 450.

²⁰ *Lib. Prop.* (n. 16 above); *Hipp. Epid. I* (CMG V.10.1, 103.6); *Hipp. Epid. III* (CMG V.10.2.1, 61.5). Deichgräber 1933: 606; Smith 1979: 124; Roselli 1991: 468; Garofalo 1994: 1814; Manetti and Roselli 1994: 1531 n. 3; Roselli 1996: 375, 380; Anastassiou and Irmer. 1997–2006: vol. II.1, p. 453.

²¹ XVII B. 345–887 K and XVIII A.1–195 K; Galen *Lib. Prop.* 9.6–7 (XIX.35 K = *SM* 2.112 Müller = 160.13–21 Boudon-Millot). In the proemium to his commentary on section VII of the *Aphorisms* (XVIII A.101 ff. K), however, Galen drew attention to the questionable authenticity and disorderly arrangement of many of the aphorisms in this section. Elsewhere too he expressed doubts about the authenticity of some of the material collected in the *Aphorisms*. See López Férez 1991a; Manetti and Roselli 1994: 1535–8; Centre Jean Palerne: Lettre d'information 29, 1997 (Saint-Étienne), 2–6; nn. 16, 24, 28.

²² XVIII B.1–317 K; CMG V.9.2.197–378 Heeg. See *Lib. Prop.* 9.6, 9.9 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.15, 161.3 Boudon-Millot); Manetti and Roselli, 1994: 1538–40; Mansfeld, 1994: 137; Ihm, 2002: 112–13 (no. 83).

²³ XVII A.1–302 K; CMG V 10.1, 3–151 Wenkebach and Pfaff. See Gal. *Hipp. Epid. III*, 2, proem. (XVII A.578 K = CMG V.10.2.1 61.18 Wenkebach); *Lib. Prop.* 9.6, 9.10 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.17, 161.7–8 Boudon-Millot); *Diff. Resp.* 3.1 (VII. 890–1 K). See also Wenkebach 1925; Manetti and Roselli 1994: 1540–2; Mansfeld 1994: 138–9; Ihm 2002: 98–9 (no. 67).

²⁴ XV.418–919 K; CMG V 9.1, 117–366 Helmreich. See also Galen *Hipp. Epid. III*, 2, proem. (XVIII A.577–8 K = CMG V.10.2.1. 61.6–11 Wenkebach), on *Acut.* (*App.*):... καὶ γὰρ τοῦτο φαίνεται πολλὰ κατὰ τὴν Ἱπποκράτους γνώμην ἔχειν ἐν ἑαυτῷ θεωρήματα. *Diff. Resp.* 3.1, 3.6

To these early 'private' commentaries also belonged his lost commentaries *On Aristotle's Categories*, *On Interpretation*, *Prior Analytics* and *Posterior Analytics*, *On Theophrastus' On Affirmation and Negation* and *On Eudemus' On Speech*.²⁵ Galen's claim that he composed all these commentaries only as a private form of self-training probably veils a more complex reality, as suggested later.

The commentaries written for a wider readership (πρὸς ἑκδοσιν) began with the following five, all on Hippocratic works that he also considered authentic or possibly authentic:²⁶

9. *On Humours* (a commentary in three books, written 'rapidly, in a few days'; only fragments survive in Greek);²⁷
10. *In the Surgery* (written, Galen says, either by Hippocrates himself or by Hippocrates' son Thessalus; the commentary in three books is extant);²⁸
11. *On Nutriment* (a commentary in four books, almost all lost);²⁹

(VII.891, 913 K). Galen *HVA* 4.5 (XV.744 K = *CMG* V.9.1 277.3–5 Helmreich), adds that, even if *Acut. (App.)* is not by Hippocrates, it is very old, since it had already been added to the authentic *Acut.* by the time of Erasistratus (c. 315–240 BC). In *Lib.Prop.* 9.9 (XIX.36 K = *SM* 2.113 Müller = 161.3–4 Boudon-Millot) Galen reports that the commentary comprised five books (three on *Acut.*, two on *Acut. [App.]*); only Books 1–3 and an incomplete version of Book 4 are extant. See Smith 1979: 136–45; Manetti and Roselli 1994: 1542–5; Mansfeld 1994: 137–8; Ihm 2002: 88–9 (no. 53); Boudon-Millot 2007a: 210 n. 5 (*ad* 160).

²⁵ *Lib.Prop.* 9.5–7, 14.10–15 (XIX.35, 41–2, 47 K = *SM* 2.112.7–21, 117.24–119.2 = 160.8–21, 166.5–167.6 Boudon-Millot); cf. also ch. 16.1, 17.1–3, 18.1 (XIX.46, 47 K = *SM* 2.122.9–11, 122.21–123.6, 123.13–14 Müller = 170.15–17, 171.8–16, 172.6–7 Boudon-Millot) for Galen's lost commentaries on philosophical works by Plato, Peripatetics and Stoics.

²⁶ *Lib.Prop.* 9.7–8 (XIX.35 K = *SM* 2.112.17–27 Müller = 160.18–161.1 Boudon-Millot).

²⁷ Galen, *Hipp.Epid. III*, 2, proem. (XVIIA.578 K = *CMG* V.10.2.1, 61.11–13 Wenkebach); *Lib.Prop.* 9.8, 9.11 (XIX.35, 36 K = *SM* 2. 112, 113 Müller = 160.24, 161.9–11 Boudon-Millot); *Hipp.Epid. I.10*, 3.1 (XVIIA.204, 215 K = *CMG* V.10.1, 102.23–5, 108.24–5 Wenkebach). The extant version of a 'Galenic' commentary (XVI.1–488 K) on the Hippocratic treatise *On Humours* is a Renaissance forgery, but fragments of the original are extant; see Deichgräber 1972; Smith 1979: 172–5; Manetti and Roselli 1994: 1540; Strohmaier 1993: 2016; Ihm 2002: 105–6 (no. 74).

²⁸ There is no critical edition of Galen's text (XVIII.629–925 K), but see Lyons 1963: 10–123. Cf. *Hipp. Off. Med.* 1.5 (XVIII.666 K): φαίνεται δὲ ἐξῆς ὁ τοῦ βιβλίου συγγραφεύς, εἴτ' αὐτὸς ὁ Ἱπποκράτης ἔστιν εἴθ' υἱὸς αὐτοῦ Θεσσαλός, οὔτε πασῶν τῶν κατ' ἱατρικὴν χειρουργιῶν μνημονεύειν οὔτε τῶν κατὰ τὸ ἱατρεῖον, ἀλλὰ καὶ τούτων αὐτῶν ὅσαι τοῖς εἰσαγομένοις εἰσι χρήσιμοι. See also *Hipp.Epid. III*, 3 proem. (XVIIA.578 K = *CMG* V.10.2.1, 61.17–18 Wenkebach); *Lib.Prop.* 9.8, 9.11 (XIX.35, 36 K = *SM* 2. 112, 113 Müller = 160.25, 161.9–11 Boudon-Millot); Vogt 1910; Roselli 1991: 467–75; Manetti and Roselli 1994: 1546–7; Mansfeld 1994: 145–7; Roselli 1996; Ihm 2002: 111–12 (no. 82).

²⁹ Gal. *Lib.Prop.* 9.8, 9.12 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.24, 161.14–15 Boudon-Millot). The extant 'Galenic' commentary on the Hippocratic treatise *On Nutriment* (XV.224–417 K.) is a Renaissance forgery, but a fragment appears to be extant in a Florentine papyrus; Heiberg, *CMG* I.1: 79–84, in the critical apparatus to his edition of *Alim.* also records remnants from this commentary, preserved in Marcianus gr. 269, eleventh cent. See Manetti 1985; Manetti and Roselli 1994: 1531 n. 2; Manetti 1995; Ihm 2002: 92–3 (no. 58).

12. *Airs, Waters, Places* (a commentary in three books, extant in Arabic);³⁰
 13. *Epidemics III* (an extant commentary in three books).³¹
- Subsequently, Galen composed further 'public' commentaries on the following works in the Hippocratic corpus, even though he thought some of them were not authentic in all respects:
14. *Epidemics II* (the Greek text of this commentary in six books is lost, but Hunain's ninth-century Arabic translation preserves the first four as well as the sixth book);³²
 15. *Epidemics VI* (a commentary in eight books, extant partly in Greek, the rest in Arabic);³³
 16. *On the Nature of Man* (an extant commentary in three books, the last of which is on the final part of *Nat. Hom.* also known as *On Regimen in Health* [*Salubr.*], which Galen attributed to Polybus);³⁴
 17. *Prorrhetic I* (an extant commentary in three books).³⁵

³⁰ Galen *Hipp.Aph.* (XVIIB. 583–4 K). In *Lib.Prop.* 9.8, 9.12 (XIX.35, 36 = *SM* 2.112, 113 Müller = 160.26–7, 161.11–13 Boudon-Millot), Galen twice identified the treatise as *On Places, Airs, and Waters*, while insisting that it should instead bear the title *On Dwelling Places, Waters, Seasons, and Countries*. See Ullmann 1977; Wasserstein 1982; Noja 1984; Jouanna 1991; Strohmaier 1993; Manetti and Roselli 1994: 1557; Roselli 1996: 380; Jouanna 1997; Ihm 2002: 90–2 (no. 56); Boudon-Millot 2007a: 212 n. 1; Anastassiou and Irmer 1997–2006: II.1.28–51.

³¹ *Hipp.Epid. III*, 1–3 (XVIIA.480–792 K = *CMG* V.10.2.1. 1–187 Wenkebach). See Galen, *Diff. Resp.* 3.1 (VII.890 K); *Hipp.Epid. VI*, 1, proem. (XVIIA.796 K = *CMG* V.10.2.2. 5 Wenkebach); *Lib.Prop.* 9.8, 9.10 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.21–3, 161.7–8 Boudon-Millot). See also Wenkebach 1925; Smith 1979: 162–3; Manetti and Roselli 1994: 1552–3; Mansfeld 1994: 139; Ihm 2002: 101–2 (no. 69).

³² *Hipp.Epid. II*, 1–6 (*CMG* V.10.1. 155–410 Pfaff). See also n. 33 below; Manetti and Roselli 1994: 1548–9; Ihm 2002: 99–100 (no. 68).

³³ *Hipp.Epid. VI*, 1–7 (XVIIA.793–1009; XVIIB.1–344 K = *CMG* V.10.2.2. 3–508 Wenkebach/Pfaff). Galen conceded that *Epidemics II* and *VI* might be compilations by Hippocrates' son Thessalus, based on material recorded by Hippocrates himself. See Galen *Hipp.Epid. III*, 2 proem. (XVIIA.578–9 K = *CMG* V.10.2.1. 61.18, 62.12–19 Wenkebach); *Diff.Resp.* 2.8, 3.1 (VII.854–5, 890 K); *Lib.Prop.* 9.8, 9.10 (XIX.35, 36 K = *SM* 2.112.21–2, 113.7–9 Müller = 160.21–3, 161.8–9 Boudon-Millot). See also Wenkebach 1925; Pfaff 1931; Deichgräber 1933: 600–7; Smith 1979: 148–55, 163–6; Manetti and Roselli 1994: 1553–4; Mansfeld 1994: 139–41; Roselli 1996: 380; Ihm 2002: 102–3 (no. 70); nn. 53–6 below.

³⁴ *XV.1–223 K*; *CMG* V.9.1, 3–113 (including *Salubr.*). Galen concluded that only the first part of *Nat. Hom.* that deals with the natural, basic constituents of the body (or, as Galen at times called them, the elements, στοιχεῖα, even though the word στοιχεῖον is never used by Hippocrates to refer to such constituents) was written by Hippocrates himself. The subsequent part, he argued, was a post-Hippocratic addition, and the concluding part (ch. 16–24, also known as *On Regimen in Health*) was a work by Polybus, a pupil and possibly son-in-law of Hippocrates; see Jouanna 2002: 19–38, 55–9, 96–114. See also *Lib.Prop.* 9.8, 9.12 (XIX.35, 36 = *SM* 2.112, 113 Müller = 160.24–5, 161.15 Boudon-Millot); Smith 1979: 166–72; Manetti and Roselli 1994: 1554–7; Mansfeld 1994: 141–5; Jouanna 2000; Ihm 2002: 109–10 (no. 79); Boudon-Millot 2007a: 212 n. 3.

³⁵ *XVI.489–840 K*; *CMG* V.9.2. 3–178 Diels. See *Lib.Prop.* 9.8, 9.11 (XIX.35, 36 K = *SM* 2.112, 113 Müller = 160.24, 161.9–11 Boudon-Millot). Galen agreed with those who regarded *Prorrh. II* as

Galen seems to refer to further commentaries of his – some already written, some still to be composed – for instance, on the Hippocratic treatises:

18. *On Diseases of Women*;
19. *On the Eighth-Month Child*;
20. *On the Nature of a Child*;
21. *On Generation*;
22. *On Affections*;
23. *On Diseases*.³⁶

Furthermore, Galen counted several of his works that do not formally adopt the conventions of the commentary genre among his exegetical works on Hippocrates too, for example, his extant treatises *On Critical Days*, *On Crises*, *On Difficulties in Breathing*, *On the Elements according to Hippocrates*, *On Hippocrates' Regimen in Acute Diseases*, *Against Lycus*, *Against Julian*, *The Best Doctor is also a Philosopher* (which, he said, also had the abbreviated title *Galen's Hippocrates*) and his Hippocratic glossary.³⁷ His lost treatises that dealt with Hippocrates include *On Hippocrates' Anatomy* (in six books) and *That Hippocrates Appears to have the Same Opinion in Other Treatises as in 'On the Nature of Man'* (in three books).³⁸

If Galen is to be believed, the eight 'private' commentaries (οὐ πρὸς ἔκδοσιν) listed above were composed in the early part of his first Roman sojourn when he did not have access to his own library, which was still in Pergamum.³⁹ In these commentaries, he said, he did not introduce previous commentators, except occasionally from memory, and only if he remembered a particularly grave error on their part that might have a harmful effect on a reader's medical practice. Furthermore, he claimed that in some of his systematic treatises he had already raised many of the pertinent points about the relevant Hippocratic texts, and that it would therefore have been superfluous to refute all the errors of earlier writers, especially in 'unpublished' commentaries.⁴⁰ Galen seems to have vacillated,

inauthentic: *Praen.* 4.2 (XIV.620 K = *CMG* V.8.1. 88–90 Nutton), and Nutton pp. 175–6 (ad loc.). See Smith 1979: 155–9; Manetti and Roselli 1994: 1550–2; Ihm 2002: 113–14 (no. 84); Boudon-Millot, 2007a: 161 n. 2.

³⁶ See Gal., *Hipp.Epid. III* (*CMG* V.10.1.297.19–24, 301.10–13, 310.26–9, 304.10–13 Pfaff), for allusions to his commentaries on *Mul.*, *Oct.*, and *Nat. Puer*; Ihm 2002: 108 (no. 78), 110–11 (no. 80, 81), and, on a commentary by Galen on *Genit.*, p. 104 (no. 72). For possible references to his commentaries on *Aff.* and *Morb. I–III*, see HVA 2.38, 3.15 (XV.587, 663–4 K; *CMG* V.9.1. 198.3–6, 237.4–7 Helmreich); cf. Ihm 2002: 92 (no. 57), 107–8 (no. 77).

³⁷ Galen, *Lib.Prop.* 9.2, 9.13–14 (XIX.34, 36 K; *SM* 2. 111, 113–14 Müller; 159.18–20, 161.20–162.11 Boudon-Millot).

³⁸ *Lib.Prop.* 1.7, 9.12 (XIX.13, 36 K; *SM* 2.95, 113 Müller; 138.1–2, 161.15–20 Boudon-Millot).

³⁹ *Lib.Prop.* 9.4 (XIX.34 K. = *SM* 2. 112.3–7 Müller = 160.4–8 Boudon-Millot).

⁴⁰ *Lib.Prop.* 9.3–4 (XIX.34 K. = *SM* 2. 111.24–112.5 Müller = 160.1–6 Boudon-Millot).

however, between which of four reasons he should advance for the relative invisibility of his Hellenistic predecessors in these early commentaries: (1) his inability to consult his own library; (2) his intention not to circulate these commentaries; (3) his intention to write them as private 'practice pieces' to train himself; and (4) redundancy. He makes no mention of a fifth possible reason: that he might not yet have acquired an extensive familiarity with earlier exegetical traditions or fully recognised their usefulness as a foil for his exegetical 'genius'. Whatever the true reason or reasons might have been (and the ones cited above are not necessarily mutually exclusive), it should not be overlooked that, in most of the early commentaries that he characterised as *not* intended for wider circulation, he nevertheless introduced some interpretations by exegetical predecessors, often in order to convey the superiority and distinctiveness of his own interpretations.

Even within the group of Galen's 'unpublished' commentaries there is, however, a noteworthy variation in the frequency of references to Hellenistic exegetical predecessors (just as there is variation in the density of such references in Galen's 'published' commentaries). The 'private' commentary on *Epidemics I* seems to contain the fewest such references. Furthermore, these references are vague: the earlier commentators are neither identified by name nor privileged with adjectives such as 'first' or 'ancient',⁴¹ even if Galen occasionally mentioned doctrines – expressed in non-exegetical works – of Hellenistic or pre-Hellenistic physicians (for instance, Herophilus and Diocles of Carystus). In his commentary on *On Fractures/On Joints*, Galen mentioned more authors by name, but almost none of them was a commentator. Most of them, as well as many nameless 'ancients', are invoked to attest 'ancient' linguistic usage in order to clarify the meaning of Hippocratic words. An exception is Galen's mention (twice) of the first-century BC commentary of Heraclides of Tarentum. He also referred to the disagreement of Ctesias of Cnidus – probably not expressed in a commentary – with a view advocated in the Hippocratic work.⁴²

⁴¹ See e.g. Galen, *Hipp.Epid. I*, 1.35, 36 (CMG V.10.1. 42.8 43.4 Wenkebach): τοῖς πλείστοις τῶν ἐξηγητῶν, and οἱ πλείστοι τῶν ἐξηγησαμένων τὸ βιβλίον. In the proemium to this commentary, however, Galen did criticise a more recent commentator by name: Quintus, who belonged to the generation of Galen's father (CMG V.10.1. 6.6–24 Wenkebach; cf. 17.3–8, 52.26–30). He likewise referred to unnamed Empiricists, also for their interpretations of the *Aphorisms*: οἱ ἐμπειρικοὶ τῶν ἰατρῶν, ἐξηγοῦμενοι τοὺς Ἀφορισμούς (17.9–10 Wenkebach; for commentators on the *Aphorisms* see nn. 46–8 below).

⁴² *Hipp.Fract. 1.1* (XVIII B.418.4 K.): τινὲς μὲν τῶν ἐξηγησαμένων τὸ βιβλίον. See *Hipp.Art. 4.4* (XVIII A.731, 735–6 K), for references to Ctesias of Cnidus and Heraclides of Tarentum. The non-exegetical Hellenistic authors mentioned in Galen's commentary on *Fract.* and *Art.* include the surgeons Andreas of Carystus, Nileus, Molpis and Nymphodorus; the physician Erasistratus; the poet Callimachus; Archimedes and Euclid. Among the other figures mentioned by name are

In Galen's likewise 'unpublished' commentary on *Prognostic*, references to exegetical precursors, who here too are neither identified by name nor qualified by 'ancient', are likewise vague ('some'/'certain'/'most' commentators) as well as few and far between,⁴³ though a number of poets, orators, historians, astronomers, philosophers and physicians again are mentioned by name.⁴⁴ His 'private' commentary on *Regimen in Acute Diseases* occupies an intermediate position, with more references to his exegetical predecessors than his commentary on *Epidemics I* but fewer than the commentaries on *Prognostic* and on *Fractures/On Joints*. Once again, however, no strong Hellenistic orientation is visible in the references to earlier commentators.⁴⁵

Galen's initially 'unpublished' commentary on *Aphorisms* stands apart from the other 'private' commentaries in so far as it refers to earlier interpreters of the Hippocratic text with significantly greater frequency. Some of these references might, however, have been added in the course of subsequent revisions by Galen himself. Be that as it may, for the most part the earlier exegetes here again are not located in a specific time or place: Galen evasively referred to them as 'some', 'almost all', 'most', 'not a few', 'certain' or simply 'the' commentators,⁴⁶ and, with rare exceptions, they are not

Homer, Pindar, Herodotus, Thucydides, Euripides, Prodicus, Xenophon, Aristophanes, Plato, the physicians Euenor, Diocles of Charystus, Philotimus, Pelops, Menodorus, Artemidorus Capiton and the ubiquitous nameless 'Empiricists' and 'Rationalists'.

⁴³ For example, Galen *Hipp.Prog.*: καθάπερ ἔνιοι τῶν ἐξηγητῶν γράφουσι (*Hipp.Prog.* 1.2; *CMG* V.9.2. 198.17–18 Heeg). ὅσα λέγουσιν ἔνιοι τῶν ἐξηγητῶν (*Hipp.Prog.* 1.4. 203.14). διαπεφώνηται τοῖς ἐξηγησαμένοις τὸ βιβλίον (206.2). τις . . . τῶν ἐξηγησαμένων τὸ βιβλίον (*Hipp.Prog.* 1.4. 205.23). Cf. 205.5–8, which probably does not refer to a commentary but does attest to third-century BC critical responses to *Hipp.Prog.* (see von Staden 1989: 82–3 [fr. 33]).

⁴⁴ Physicians mentioned by name or doctrinal affiliation in Galen's commentary on *Hipp.Prog.* include Diocles, Herophilus, Erasistratus, Archigenes, Empiricists and Methodists; the Hippocratic 'editors' Artemidorus Capito and Dioscurides the Younger also are introduced. Non-medical figures mentioned in this commentary include Homer, Solon, Thucydides, Euripides, Prodicus, Socrates, Plato, Demosthenes, Dinarchus and, from the Hellenistic period, Aratus.

⁴⁵ Allusions to exegetical predecessors in Galen's *On Hippocrates' Regimen in Acute Diseases* include the following: τὴν ἐφεξῆς ῥῆσιν, ἣν οὐδεὶς ἐξηγήσατο προσκόντως (*HVA.* 1.16; *CMG* V.9.1. 130.18–19 Helmreich); ὥς μὲν οἱ πλείστοι τῶν ἐξηγουμένων λέγουσι (*HVA.* 2.23. 183.20–1 Helmr.); ἔνιοι δὲ . . . ἐξηγοῦνται τὴν λέξιν γελοίως, τινὲς δὲ καὶ μετασκευάζουσιν, ὥσπερ καὶ οἱ οὗτοι γράφοντες . . . (*HVA.* 4.31. 301.25–7); οἱ μὲν πλείστοι τῶν ἐξηγουμένων . . . ὀλίγοι δὲ τινες . . . ἐξηγοῦνται (*HVA.* 4.108. 355.18–21). Doctors mentioned by name or affiliation in this commentary include Euryphon, Erasistratus, Philistion, Ariston, Phaon, Apollonius and Dexippus (the pupils of Hippocrates), Petronas, Thessalus, Menodotus, 'Cnidian doctors', Empiricists and Methodists. The 'editor' Dioscurides the Younger likewise is mentioned. The philosophers include Aristotle and Eudemus; the poet Eupolis and the orator Paulus also are mentioned.

⁴⁶ Examples from Galen *Hipp.Aph.* include the following: σχεδὸν ἅπασι τοῖς ἐξηγησαμένοις αὐτόν (*Hipp.Aph.* 1.1; XVIIIB.346.3 K.). ἅπασι σχεδὸν τοῖς ἐξηγησαμένοις τὸ βιβλίον πρόδηλον (*Hipp.Aph.* 1.1.346.8 K.). ἔνιοι τῶν ἐξηγησαμένων τὸ βιβλίον (*Hipp.Aph.* 1.3.366.8–9 K.). ἔνιοι τῶν ἐξηγησαμένων τοὺς ἀφορισμούς (*Hipp.Aph.* 1.34.532.11–12 K.). οἱ πλείστοι τῶν ἐξηγησαμένων

located in the Hellenistic period by means of Galen's customary qualifiers ('ancient' or 'first' commentators).⁴⁷ Only near the end of this commentary did Galen finally name three pioneering Hellenistic commentators on the *Aphorisms*: Bacchius, Zeuxis and Heraclides of Tarentum, whom he called 'the first of those who interpreted the *Aphorisms*'.⁴⁸ Occasionally he also alluded to Hellenistic doctrines expressed in non-exegetical contexts, for instance by Theophrastus and Asclepiades of Bithynia.⁴⁹ However, he referred more freely, by name, to contemporary and near-contemporary Hippocratic scholars and physicians than in his other 'private' commentaries: Marinus, Quintus, his teacher Pelops, Numisianus and Lycus (whose commentary on the *Aphorisms* Galen did not know yet when

τοὺς ἀφορισμοὺς . . . , ἔνιοι δὲ . . . (*Hipp.Aph.* 4.65. XVIIIB.745.18–746.1 K.). οἱ πλείστοι τῶν ἐξηγησαμένων τὸ βιβλίον (*Hipp.Aph.* 4.71. XVIIIB.755.15–16 K.). ὡς τινες ἤκουσαν τῶν ἐξηγησαμένων τὸ βιβλίον, οὐδὲν ἐπιστάμενοι τῶν κατὰ ἀρρώστους ἐπιφαινομένων (*Hipp.Aph.* 4.72. XVIIIB.760.17–18 K.). καὶ τῶν ἀντιγράφων τὰ πολλὰ καὶ τῶν ἐξηγησαμένων τὸ βιβλίον οὐκ ὀλίγοι ἴσασι κατὰ τήνδε τὴν λέξιν τὸν ἀφορισμὸν γεγραμμένον (*Hipp.Aph.* 5.13. XVIIIB.797.11–12 K.). κατὰ τρεῖς τρόπους ἀκηκόασιν οἱ ἐξηγησάμενοι τὸ βιβλίον τῆς διανοίας τοῦ προκειμένου νῦν ἀφορισμοῦ (*Hipp.Aph.* 5.44. XVIIIB.836.11–12 K.). ὡς ἔνιοι τῶν ἐξηγησαμένων τὸ βιβλίον ἔγραψαν (*Hipp.Aph.* 6.33. XVIII.A.53.10–11 K.). οἱ πλείστοι τῶν ἐξηγητῶν οὕτως ἴσασι γεγραμμένον ἀφορισμὸν τοῦτον (*Hipp.Aph.* 7.13. XVIII.A.113.6–7 K.). ὡς ἔνιοι τῶν ἐξηγησαμένων ἐποίησαν (*Hipp.Aph.* 7.39. XVIII.A.136.1–2 K.). ἔνιοι μέντοι τῶν ἐξηγησαμένων τὸ βιβλίον (*Hipp.Aph.* 7.37. XVIII.A.139.12 K.). ἔν τισι δὲ τῶν ἀντιγράφων ὅλως οὐ γέγραπται (scil. *Aph.* 7.53), καὶ τινες μὲν τῶν ἐξηγησαμένων τὸ βιβλίον ἴσασι δις τε γράφουσιν αὐτόν (i.e. *Aph.* 7.53 partly repeats *Aph.* 6.47), ἔνιοι δ' οὐδ' ὅλως μέμνηται (*Hipp.Aph.* 7.53. XVIII.A.161.14–162.1 K.). τί ποτ' οὐν ἔδοξε . . . τισι τῶν ἐξηγησαμένων δις ἐξηγεῖσθαι (scil. τοὺς αὐτοὺς ἀφορισμοὺς), μὰ τοὺς θεοὺς, οὐκ ἔχω συμβαλεῖν (*Hipp.Aph.* 7.53. XVIII.A.162.6–10 K.). ἔτι τε μάλλον ἐστὶ τῶν ἐξηγητῶν ἐκείνων θαυμάζειν, ὅσοι δις ἐξηγουμένοι τοὺς αὐτοὺς ἀφορισμοὺς οὐδ' αὐτὸ τοῦτο προσέθεσαν, ὅτι δεῦτερον αὐτὸ ποιοῦσι. καὶ τούτων ἔτι μάλλον ὅσοι καὶ διαφόρους ἐξηγήσεις ἔγραψαν, ἐν τε τούτοις ἐπὶ τῇ τελευτῇ καὶ τοῖς ἔμπροσθεν ἐπὶ τῶν αὐτῶν εἰρημένοις (*Hipp.Aph.* 53.162.15–163.3 K.). ἐφεξῆς τοῖς προγεγραμμένοις ἀφορισμοῖς ἕτεροι δύο σχεδὸν ἐν ἅπασι τοῖς ἀντιγράφοις εὐρίσκονται, μετὰ τοῦ καὶ τοὺς ἐξηγησαμένους τὸ βιβλίον ὀλίγου δεῖν ἀπαντας μνημονεύειν αὐτῶν, καὶ τινες ἐξηγοῦνται, ἀλλὰ διαφόρος ἢ ἐν τοῖς ἔμπροσθεν (*Hipp.Aph.* 7.59. XVIII.A.173.1–6 K. [on *Aph.* 7.60 Littre, Jones]). ἔνιοι γάρ τινες τῶν ἐξηγησαμένων αὐτόν (scil. *Aph.* 7.68 Littre, Jones) οὐ φασιν ἀπογορεύειν τὸν Ἱπποκράτην διδόναι ροφήματα τοῖς οὕτω διακειμένοις (*Hipp.Aph.* 7.69. 185.2–4 K.). See also XVIIIB.358.2–3, 360.15, 571.7–8, 589.9–12, 766.13–15 K.; XVIII.A.133.3–5, 177.12–15, 193.10 K.

⁴⁷ For an exception, see *Hipp.Aph.* VII.13 (XVIII.A.113.10–13 K.): τῶν δ' ἐξηγησαμένων σχεδὸν ἀπάντων καὶ μάλιστα τῶν παλαιωτάτων.

⁴⁸ Galen, *Hipp.Aph.* VII.70 (XVIII.A. 186–7 K, as emended by C. G. Cobet and J. Klein): εἰρηται δὲ καὶ πρόσθεν ὅτι καὶ ἄλλοι τινὲς εἰσιν, ἔξωτι γὰρ ἐν τοῖς ἀσάφειν ὡς ἂν ἐθέλῃ τις γράφειν, οὐδενὸς ἐπὶ τοῖς μεταγράφοις νόμον κειμένου, πολλάκις δὲ οὐ διὰ τὴν ἀσάφειαν, ἀλλ' ὅτι ψευδὴς ἐστὶν ὁ λόγος· διὰ τοῦτο ἀνογκάζονται προσγράφειν τοῖς ἐξ ἀρχῆς εὐρεθεῖσιν ἢ ἀφαρῖν ἢ μεταγράφειν, ὥσπερ ἀμέλει καὶ κατὰ τόνδε τὸν ἀφορισμὸν, οὗ τὴν λέξιν οἱ πρῶτοι τῶν ἐξηγησαμένων τοὺς ἀφορισμοὺς, ὧν ἐστὶν ὁ Ἡροφίλειος βακχεῖος, Ἡρακλείδης τε καὶ Ζεῦξις οἱ ἐμπειρικοί, τοιαύτην τινὰ γράφουσιν· ὁκόσοις ἂν κάτω ὡμὰ ὑποχωρήνῃ, χολῆς μελαίνης ἐστίν, ἢ πλείω, πλείονος, ἢν ἐλάσσω, ἐλάσσονος (*Hipp.Aph.* 7.70 in Galen's commentary = *Aph.* 7.69 in the editions of Littré, Jones and Magdelaine). The rest of Galen's allusions to 'the Empiricists' in this commentary do not clarify whether he is referring to Hellenistic or more recent Empiricists.

⁴⁹ *Hipp.Aph.* I.14, 7.46 (XVIIIB.405.2–3; XVIII.A.152.9–11 K.).

he composed the first version of his own commentary but whose interpretation of *Aphorism* 1.14 he later vehemently criticised in his *Against Lycus*, as well as the two famous ‘editors’ of Hippocratic texts, Artemidorus Capito and Dioscorides, not to mention nameless ‘moderns’ (οἱ νεώτεροι).⁵⁰ It is hard to avoid the impression that Galen, even in this updated ‘private’ commentary that has significantly more references to exegetical predecessors than Galen’s other ‘private’ commentaries, did not yet sense a need to parade a detailed knowledge of Hellenistic scholarship – or was not yet able to do so.

By contrast, in his commentaries intended for wider circulation (πρὸς ἔκδοσιν), Galen was often at pains to put on display a mastery of the history of Hellenistic Hippocratic exegesis. Some of these accordingly contain lengthier polemics against his exegetical precursors, more copious attention to the particulars of their interpretations and more identifications of these predecessors by name than do his commentaries not intended for wider circulation. An implication of this difference between some of his ‘public’ and his ‘private’ commentaries is that only when he went public did he see a strategic advantage in staging the past in its fullness, in order to define his own authority more amply and precisely against or with this past. Galen’s account, in a relatively late work, *On My Own Books* (probably composed between AD 195 and AD 205), of the differences between his ‘private’ and his ‘public’ exegetical efforts might in part have been a self-serving retrospective construct, but Daniela Manetti has rightly observed that, in and of itself, Galen’s account is not entirely implausible.⁵¹

GALEN’S WORLD OF HELLENISTIC SCHOLARSHIP: ‘ANCIENT’ MANUSCRIPTS, EDITIONS, COMMENTARIES, VARIANTS, CORRECTIONS, EMENDATIONS AND COMMENTATORS

For all his polemics against predecessors, ancient and recent, of various exegetical stripes, Galen recognised that the Hellenistic period represented an invaluable chapter in the long history of ancient editions and interpretations of medical texts.⁵² He seems therefore to have understood that his public exegetical self-depiction could be advantageously shaped by invoking his knowledge of Hellenistic interpreters of Hippocratic texts,

⁵⁰ *Hipp.Aph.* XVIIIB.414.14–18, 415.2–3, 561.1–4, 751.8–11, 837.1–4, 837.8–11; XVIII A.29.9–11, 113.8–10, 123.5–14, 163.11–12, 164.2–4 K). See also XVII B.819.12–15; XVIII A. 82.3–4 K).

⁵¹ See Manetti and Roselli 1994: 1570.

⁵² See Wenkebach 1920; Wellmann 1931; Deichgräber 1965: 22–30, 220–49, 317–22, 409–18; Smith 1979: 123–76; Roselli 1988; Kudlien 1989: 66–70; von Staden 1989: 427–39, 441–2, 452–6, 485–503, 555–6; von Staden 1992; Kollesch and Nickel 1993; Lloyd 1991a; Vallance 1993: 709; Manetti and Roselli 1994: 1593–600, 1615–16; Guardasole 1997: 265–98; Ihm 2002; von Staden 2006; Irmer 2007.

even if he gave more recent commentators (Rufus of Ephesus, Marinus, Quintus, Sabinus, Lycus of Macedonia, the Methodist Julian of Alexandria and other members of the circle of Quintus) frequent turns in the witness box too.

Galen advanced several reasons for acquiring a detailed knowledge of Hellenistic commentaries, 'editions', lexica and monographs devoted to Hippocratic works. Above all, there was the matter of identifying useful 'truths': not only useful scientific facts but also their Hippocratic corollaries, that is, truths about Hippocrates' words and their meanings. In Galen's view, Hippocratic texts were an indispensable foundation of medicine, yet they were often rendered difficult or problematic by obscurity, lack of clarity, elliptical concision and contested authorship. Moreover, these texts had become corrupted and distorted over time by the vagaries of transmission, by incompetent or malicious editorial interventions and by the textual consequences of misinterpretations and other forms of bad exegesis. In order to recover the original versions of Hippocratic texts and their true meanings, it was therefore necessary, he argued, to have a philologico-historical knowledge not only of the oldest copies (ἀντίγραφα) of Hippocratic texts but also of the early commentaries (ὑπομνήματα, ἐξηγήσεις, βιβλία ἐξηγητικά), since these were more likely to contain 'the ancient readings' (παλαιαὶ γραφαί, ἀρχαῖαι γραφαί).

In his commentary on *Epidemics VI* – a 'public' commentary – Galen again and again, from start to finish, referred to 'ancient readings' or variants (παλαιαὶ γραφαί or, less frequently, ἀρχαῖαι γραφαί; 'alte Lesarten' in Pfaff's translation of the sections of the commentary extant only in Arabic).⁵³ He likewise referred to 'ancient copies' or manuscripts (παλαιὰ ἀντίγραφα) of *Epidemics VI*, to anonymous 'ancient commentators' (παλαιοὶ ἐξηγηταί) and to 'the first commentators' and lexicographers a number of times, some of them by name: Bacchius, Glaucias, Zeuxis, Callimachus (the Herophilean), Heraclides of Tarentum, Heraclides of Erythrae.⁵⁴ Already in the preface to this commentary, he

⁵³ Galen *Hipp.Epid.* VI, preface; 1.3, 5; 2.9, 21, 30, 36, 43; 3.3, 12, 13, 20, 23, 25, 30, 33, 34, 35, 37, 44, 45; 4.1; 5.14, 31; 7 (XVIIA.794, 795, 816, 828, 914, 937, 957, 974, 991–2; XVIIIB.13, 27, 34, 58, 59, 67, 71, 90, 93, 98, 101, 104, 110, 113, 123 K [rest missing in Greek; extant in Arabic] = CMG V.10.2.2, 3.11, 4.5, 4.16, 15.9, 22.7–8, 69.19, 83.20, 93.23–4, 103.21, 113.18–28, 130.26, 137.17, 141.19, 154.21–2, 155.16, 160.3, 162.3, 162.15, 172.10–11, 174.11, 176.20, 178.17–18, 180.9–10, 184.5, 186.11, 190.28, 286.32, 314.18, 395.32–33, 399.2, 503.4–7 Wenkebach/Pfaff.

⁵⁴ E.g. *Hipp.Epid.* VI, preface; 1.2, 5, 9; 2.9, 29, 30, 36, 37, 47; 3.2, 5, 12, 33; 4.8, 10, 25; 5.4; 7 (XVIIA.793, 800, 809, 824, 846, 914, 954, 956, 973, 975, 1005; XVIIIB.11, 15, 30, 93, 94, 143, 144, 199–200, 242 K = CMG V.10.2.2, 3.7–8, 7.5, 11.32–3, 19.28, 30.27–8, 69.16–17, 93.3, 93.21, 102.7, 104.2–3, 104.21, 121.20–5, 129.18–19, 131.15–17, 139.13–15, 174.11–13, 174.20–2, 202.12–13, 203.4–5, 236.17–18, 265.7–8, 440.18–23 ['ancient copies'] Wenkebach/Pfaff.

pointed out the enormous importance of Hellenistic interpreters of Hippocrates as a source of the ‘ancient readings’ and hence of the Hippocratic ‘Urtext’:

Somehow many interpreters have inflicted outrages upon this book too, . . . one doing it this way, another that way, as each hoped to give a plausible interpretation by altering the reading here. As a consequence, I was compelled to make a further investigation both of the *oldest copies* and of the *commentaries* of those who *first* explained the book. Among them are Zeuxis [c. 240–170 BC], Heraclides of Tarentum [fl. c. 75 BC], Heraclides of Erythrae [first century BC], and, before them, Bacchius [c. 275–200 BC], as well as Glaucias [c. 250–175 BC]. If, then, after revealing the *ancient reading*, they had said that the passage is likely to be corrupt and that, on this account, they suspect that some [other] particular *reading* is Hippocrates’, I too would have accepted their view, at least if I saw that, after the emendation, what they were teaching was both useful and, at the same time, consistent with the purport of the ancient [author]. But since they sometimes stumble in both respects [*scil.* usefulness and internal consistency], it seemed much better to me to *preserve the ancient reading* and always to make a serious effort to explicate it. . . .⁵⁵

Not only did Galen therefore try to recover the original versions of Hippocratic texts by resorting to the earliest Hellenistic commentaries on, and copies of, these texts (probably in great part through intermediaries), he also signalled that he might have been willing to adopt some emendations proposed by these early commentators, if they had established that a given transmitted reading was indeed corrupt and if their emendations met two criteria: usefulness and internal consistency within the Hippocratic author’s thought or intention. But Galen left no doubt that, as a general principle, in the case of variants, the earliest readings should be regarded as authentic and therefore preferable. He remarked unequivocally, for instance: ‘I prefer the ancient readings, even if their interpretation is more difficult’; ‘I always add the textual reading of those [*scil.* of the ancient commentators], even if it seems to represent a mistake on the part of those who were the first

⁵⁵ Galen, *Hipp.Epid.* VI, praef. (XVIIA.793–4 K = CMG V.10.2.2. 3–4 Wenkebach): <οὐκ οἷδ’ ὅπως καὶ τοῦτο τὸ βιβλίον, ὡσπερ καὶ ἄλλο τι τῶν τοῦ (*suppl. Wenk. e versione Arabica*) > Ἱπποκράτους συγγραμμάτων, ἐλυμήναντο πολλοὶ τῶν ἐξηγητῶν ἄλλος ἄλλως, ὡς ἑκαστος ἥλπιε πιθανῶς ἐξηγήσασθαι, τὴν κατὰ τοῦτο λέξιν ὑπαλάττων, ὥστε ἡναγκάσθην ἐγὼ διὰ τοῦτο τὰ τε παλαιότατα τῶν ἀντιγράφων ἐπιζητῆσαι τὰ τε ὑπομνήματα τῶν πρώτων ἐξηγησαμένων τὸ βιβλίον, ἐν οἷς καὶ Ζεῦξις ἐστί < καὶ *add. Wellmann, Wenkebach* > ὁ Ταραντίνος καὶ ὁ Ερυθραῖος Ἡρακλείδης καὶ πρὸ αὐτῶν βακχεῖος τε καὶ Γλαυκίας. εἰ μὲν οὖν μετὰ τὸ δηλῶσαι τὴν παλαιὰν γραφὴν ἔλεγον ἡμαρτῆσθαι τὴν λέξιν εἰκὸς εἶναι καὶ διὰ τοῦτο ὑπονοεῖν αὐτοὶ τὴν Ἱπποκράτους γραφὴν εἶναι τήνδε τινά, κἀν ἀπεδεξάμην αὐτούς, εἰ γε μετὰ τὴν ἐπανόρθωσιν ἑώρων διδάσκοντάς τι χρήσιμόν τε ἅμα καὶ τῆς γνώμης ἐχόμενον τοῦ παλαιοῦ. ἔπει δὲ ἐνίστε καὶ κατ’ ἄμφω σφάλλονται, πολλὴ βέλτιον ἔδοξε μοι φυλάττοντι τὴν ἀρχαίαν γραφὴν αἰεὶ μὲν σπουδάζειν ἐκείνην ἐξηγεῖσθαι. . . .

to make a copy of the Hippocratic text'; 'but I myself prefer the ancient readings, even if they seem implausible and present a greater *aporía*'.⁵⁶

The opposition between 'ancient' and 'modern' or 'old' (παλαιός) and 'more recent' (νεώτερος) took many forms and served many purposes in Galen's works, and it is a recurrent strand in Galen's commentaries too, as Manetti and Roselli have noted.⁵⁷ Here, his valorisation of 'ancient readings' and 'ancient copies', also when 'ancient reading' refers to a reading found in a Hellenistic commentator rather than in one of the earliest manuscripts of a given Hippocratic text, is rarely in doubt. Modern editors have recognised the value of the indirect transmission of ancient texts, and Galen too clearly recognised it, but more often than not he used 'ancient readings' and 'ancient copies' in ways that blur the distinction between the direct and the indirect transmission of Hippocratic texts.

In the proemium to Galen's 'public' commentary on the Hippocratic treatise *In the Surgery*, he offers similar reasons for investigating Hellenistic commentaries on Hippocratic texts. Were he to mention all known readings⁵⁸ of the Hippocratic text, he observed, his account would be exceedingly long, and

I therefore assumed that it is better to record *only the ancient readings*, adding to them a few that involved only slight changes, and of these preferably those on which there was a consensus among those who previously wrote commentaries on this book. There are four of them: two – Zeuxis as well as Heraclides [of Tarentum] – wrote commentaries on all the books of Hippocrates, whereas Bacchius and Asclepiades did not write commentaries on all <but only on the> difficult books.⁵⁹

This passage again confirms that Galen not only preferred to record and discuss the earliest readings but also thought it worthwhile to consider the more conservative emendations by Hellenistic commentators on Hippocratic texts. Furthermore, he accepted agreement among these

⁵⁶ *Hipp.Epid.* VI, 2.47, 3.12, 3.36 (XVIIA.1005; XVIIIB.30, 101 K; *CMG* V.10.2.2. 121.17–18, 139.13–15, 178.17–18 Wenkebach).

⁵⁷ Manetti and Roselli 1994: 1538, 1546–9, 1565, 1593, 1597, 1599, 1600, 1602–3, 1605–9, 1611, 1615–17, 1622, 1624, 1633–5.

⁵⁸ γραφαί, 'readings' (in the sense 'the way x or y is recorded'), can refer either to manuscript variants or to editorial emendations, corrections and conjectures.

⁵⁹ Galen *Hipp. Off. Med.* 1, proem. (XVIIIB.631–2 K): καί μοι μακρὸς ὁ λόγος ἔδοξεν εἶναι τῶν ὑπομνημάτων, εἰ πασῶν τῶν γραφῶν μνημονεύοιμεν. βέλτιον οὖν εἶναι ὑπέλαβον τὰς παλαιὰς μόνον γράψαι, προστιθεὶς ὀλίγας τινας αὐταῖς, ὅσαι βραχὺ μετακεκίνηται καὶ τούτων καὶ αὐτῶν ἐκείνας μᾶλλον, ὅσαι παρὰ τοῖς ἐμπροσθεν ἐξηγησαμένοις τὸ βιβλίον ὠμολόγηται. τέτταρες δὲ εἰσιν αὐτῶν, δύο μὲν εἰς ἅπαντα βιβλία Ἱπποκράτους γράφοντες ὑπομνήματα Ζεῦξις τε καὶ Ἡρακλείδης, οὐκ εἰς πάντα δὲ βακχεῖος καὶ Ἀσκληπιάδης, <ἀλλὰ τὰ> δυσλόγιστα.

commentators on a given reading as an additional reason for considering or adopting it in his own commentaries.

Many further striking examples of the high value Galen placed on Hellenistic versions of Hippocratic texts appear in some of his other exegetical works intended for wider diffusion, for instance in his commentaries on *Prorrhetic I*, *Epidemics II*, *Epidemics III* and *Nature of Man*. A few brief examples will have to suffice.

In the first sentence of Galen's explication of the first lemma from *Prorrhetic I*, he drew attention to problems posed by the fact that a word in the lemma is absent from 'most of the ancient copies' of the Hippocratic text. Later in the commentary, he repeatedly returned to the importance of 'the ancient readings' and copies, or of 'reliable' and 'trustworthy copies',⁶⁰ sometimes excoriating critics 'born yesterday and the day before' who have dared to emend the *ancient* readings in order to render it easier for them to interpret difficult passages.⁶¹ In his commentary on *Epidemics II* he similarly invoked the evidence of 'the ancient copies' or of 'all the ancient copies' or manuscripts of the text to determine the correct variant (that is, if Hunain's Arabic translation accurately renders Galen's Greek wording).⁶² Such references are, however, far more common in Galen's commentary on *Epidemics VI* (see above, n. 53–6), even if allowance is made for its greater length.

Galen's commentary on *Epidemics III* also makes strategic use of references to 'ancient' copies of the Hippocratic text,⁶³ to copies in the Library of Alexandria and to the avid collecting of manuscripts (including those 'from the ships') by Ptolemy III Euergetes.⁶⁴ In addition, this commentary teems with Hellenistic figures who engaged in scholarly work on *Epidemics III*, notably on the above-mentioned controversy about the mysterious letter-symbols entered at the end of each case-history in some ancient manuscripts.⁶⁵ The Hellenistic actors on Galen's exegetical stage – as

⁶⁰ See Galen, *Hipp.Prorrh. I*, 1.1, 2.18; 23; 3.12, 14, 17, 21, 23, 24, 29, 73 (XVI.491, 628–9, 636, 738, 746, 751, 757, 765, 769, 778–9, 836 K = CMG V.9.2. 4.5–6, 69.22–5, 73.8–10, 122.21–5, 126.13–14, 128.26–7, 132.1–2, 136.2–3, 138.7–8, 142.20–1, 176.12–16 Diels). See also nn. 65, 74, 82 below.

⁶¹ E.g., *Hipp.Prorrh. I*, 2.18 (XVI.628–9 = CMG V.9.2. 69.22–5 Diels).

⁶² *Hipp.Epid. II*, 1 and 4 (CMG V.10.1. 167.16, 175.25, 332.10 Pfaff).

⁶³ *Hipp.Epid. III*, 1.18; 3.74, 77 (XVIIA.558–9, 730, 751 K = CMG V.10.2.1. 46.19–21, 156.24–7, 168.20–2 Wenkebach).

⁶⁴ *Hipp.Epid. III*, 2.4, 8 (XVIIA.606–8, 619 K = 79–80, 87 Wenkebach).

⁶⁵ *Hipp.Epid. III*, (XVIIA.524–8, 558–61, 600–13, 617–25, 631–4, 731, 751, 765–6 K = CMG V.10.2.1. 27–8, 46–8, 75–83, 86–95, 98–100, 157, 169, 176 Wenkebach). See Littré 1839–61: 3.28–33; Ilberg 1895; Wenkebach 1920, 1925; Kind 1920; Deichgräber 1965: 234–41 (fr. 341–6), 257; Smith 1979: 199–201; von Staden 1989: 501–3; Manetti and Roselli 1994: 1594–7; von Staden 2006: 21–2, 28–30; above, n. 11.

pointed out above, he himself refers to this controversy as a theatrical event (δρᾶμα)⁶⁶ – include Mnemon of Side (of the ‘school’ of Cleophantus); the Herophileans Bacchius of Tanagra (cited especially for his ‘edition’ of *Epidemics III*), Zeno and Heraclides of Erythrae; the Empiricists Zeuxis, Apollonius the Elder, Apollonius Byblas and Heraclides of Tarentum, not to mention nameless ancient commentators. Galen himself is, of course, the triumphant protagonist, while his principal victim is Zeno (c. 225–150 BC), who had written the first book – a sizable book – about the curious symbols; Zeno’s book in turn provoked numerous critical responses.⁶⁷ Central to this controversy, as Galen makes clear, was not only the issue of the authenticity of the letter-marks but also once again the question of ‘ancient’ manuscripts: which ‘ancient’ copies contained what versions of the symbols and in which ‘ancient’ copies were they deliberately altered?

Not all of Galen’s commentaries written with a wider diffusion in mind, however, have the same density of references to Hellenistic or ‘ancient’ manuscripts, variants, ‘editions’ or commentaries. His commentary on *Nature of Man*, for example, has few explicit references to ‘ancient copies’ and ‘ancient readings’, and it introduces no Hellenistic commentators by name.⁶⁸ By contrast, Galen freely introduced the ‘moderns’, including Marinus, Quintus, Satyrus, Pelops, Sabinus and Lycus. This does not mean that he ignored the Hellenistic period in this commentary. On the contrary, he mentioned the avid acquisition of ‘ancient books’ both by the Ptolemies in Alexandria and by the Attalids in Pergamum; he alluded to the use of the obelus by Aristarchus of Samothrace to mark spurious verses in Homer (a practice adopted by Dioscurides the Younger in his ‘edition’ of Hippocrates); he referred to leading Hellenistic physicians (Herophilus, the anatomist Eudemus, Erasistratus and Asclepiades of Bithynia), to the early Hellenistic philosophers Epicurus and Theophrastus, and to undated Empiricists and ‘Rationalists’ – but not explicitly to any Hellenistic commentators on *The Nature of Man*.⁶⁹ It is not inconceivable that Galen’s

⁶⁶ See nn. 8–11 above.

⁶⁷ On Zeno see von Staden, 1989: 501–5; Ihm, 2002: 218–19 (no. 262, 263); Anastassiou and Irmer, 1997–2006: II.1, p. 488; von Staden, 2006: 28–30.

⁶⁸ On ‘ancient readings’ in *Nat.Hom.* emended by Artemidorus Capiton and Dioscurides the Younger see Galen *HNH* 1.2 (XV.21, 24 K = *CMG* V.9.1. 13.22–4, 15.11–12 Mewaldt). On lost early copies see 1.2 (23–4 K; 14.26–9 Mewaldt).

⁶⁹ *HNH* 1.44, 2.1 (XV.105, 109 K; *CMG* V.9.1. 55.6–14, 57.12–16 Mewaldt): on book collecting by the kings of Alexandria and of Pergamum. On Aristarchus: 2.1 (XV.110 K; 58.7–9 Mewaldt). On Herophilus and Eudemus: 2.6 (XV.134, 136 K; 69.16–17, 70.5–9 Mewaldt). On Erasistratus: proem., 2.1 I, 6, 16 (8, 14, III, 136, 158–9 K; 6.26, 7.4, 10.1–6, 58.26, 70.2, 81.8, 81.22 Mewaldt). On Asclepiades: 2.1 (III K; 58.26 Mewaldt). On Epicurus: proem (5 K; 5.14 Mewaldt). On Theophrastus: 1.2 (25 K; 15.22–5 Mewaldt).

silence about Hellenistic commentators simply reflects an absence of exegetical work on this text in the Hellenistic period. I know of no evidence of a Hellenistic commentary on *Nature of Man*, and, while Erotianus in his Hippocratic glossary (probably composed at the time of the Emperor Nero) seems to have included words from *Nature of Man* (Δ.8, E.24, E.25), it is unclear from which source(s) he drew the glosses.

Turning to Galen's initially 'private' commentaries, one encounters a striking paucity of such references to 'ancient copies' or manuscripts of Hippocratic texts and to 'ancient readings' or variants. In his commentary on *Prognostic*, for instance, he referred merely twice to 'ancient copies' of the treatise⁷⁰ and never to 'ancient readings' or to 'ancient' (or 'first' or 'early') exegetes. In his commentary on *Epidemics I*, there are only a few references to copies of the Hippocratic text and to textual variants, and none of them carries the label 'ancient' or any similar designation.⁷¹ Here Galen likewise made no specific reference to 'ancient commentators', though in his preface he criticised Quintus' much more recent exegetical efforts and elsewhere alluded to anonymous commentators.⁷² A similar pattern prevails in his commentary on *On Regimen in Acute Diseases*: it contains a few references to manuscripts and to textual variants, but none of these mentions 'ancient' copies or readings. The same holds for the references to 'copies' and 'readings' in Galen's commentary on *Fractures/On Joints*. Even in his commentary on *Aphorisms*, which, as pointed out above, has a greater density of references to Galen's exegetical predecessors and likewise has many more references to 'copies' (*antigrapha*) of the Hippocratic text, he does not explicitly refer to 'ancient' copies or readings.

PROLIXITY AND SILENCE

Galen's strategy of self-presentation seems to entail not only providing numerous such details about Hellenistic manuscripts and the textual variants they contained, about the history of textual criticism, exegetical controversies and various aspects of the interpretation of Hippocratic texts in the Hellenistic period. It also relies on cunning silences. In particular, he repeatedly leaves his readers in the dark as to where he got this impressively

⁷⁰ *Hipp. Prog.* 1.17; 3.23 (XVIII B.62, 267 K; *CMG* V.9.2. 231.2–3, 349.14–16 Heeg). In this commentary, the very few further references to 'copies' of the Hippocratic text do not include specifications such as 'old' or 'ancient'. See nn. 43, 44 above, for further details.

⁷¹ *Hipp. Epid. I* (XVII A.12, 59, 60, 80, 82, 151, 163, 224, 246 K; *CMG* V.10.1. 10.7–8, 34.7–12, 43.23–5, 45.3–4, 77.12–13, 83.7–8, 113.5–7, 123.13–22 Wenkebach).

⁷² See n. 41 above.

detailed knowledge of Hellenistic scholarship. Are the two passages quoted above from the prefaces to Galen's commentaries on *Epidemics VI* and on *In the Surgery*, for instance, based on direct access to the works of all six Hellenistic commentators there mentioned by name (the Empiricists Zeuxis,⁷³ Glaucias⁷⁴ and Heraclides of Tarentum;⁷⁵ the Herophileans Bacchius⁷⁶ and Heraclides of Erythrae;⁷⁷ and Asclepiades of Bithynia)?⁷⁸ In all likelihood not, but Galen is far from averse to leaving the impression that he did have direct access to these and other Hellenistic exegetes. It is not inconceivable that he had one or two of Zeuxis' commentaries as well as some commentaries and a lexicographic work by Heraclides of Tarentum at hand, as some have suggested.⁷⁹ Heraclides, whom Galen rated 'a very trustworthy witness' in exegetical matters, would have been a valuable source concerning the Hellenistic exegetical enterprise since he reported the views of both early Herophilean and Empiricist commentators and lexicographers, at times taking issue with them. As a physician-philologist who first trained with the Herophilean doctor Mantias before defecting to the Empiricists, Heraclides was thoroughly familiar with the medical and exegetical traditions of both 'schools' (and, though a renegade Herophilean, he was not always critical of the Herophilean interpretations of Hippocratic texts).⁸⁰ More certain is that Galen drew some of his knowledge of Hellenistic commentaries from more recent intermediaries, such as

⁷³ On Zeuxis' exegetical works see Wellmann 1912: 12–14; Deichgräber 1965: 24–8, 209, 223–4, 227–8, 230, 237, 241–7, 249, 263, 409–13, 417–18 (fr. 316, 319, 332, 337, 343, 345–6, 350–1, 354–5, 357–61, 365, 388a, 359c, 360a–b, 361b); Smith 1979: 199–201, 210–12; Manetti and Roselli 1994: 1594–8; Mansfeld 1994: 199–200; Ihm 2002: 219–22 (no. 264–71); von Staden 2006: 30–40.

⁷⁴ On Glaucias' interpretations and emendations of Hippocratic texts, see Manetti and Roselli 1994: 1598–9; Mansfeld 1994: 199–200; Ihm 2002: 219–22 (no. 264–71); von Staden, 2006: 40–6.

⁷⁵ On the works of Heraclides of Tarentum see Wellmann 1912: 12–14; 1931: 12, 25, 28, 31; Deichgräber 1965: 221–5, 228–39, 242–4, 249, 409–12 (fr. 311, 312, 317, 319–20, 323, 325, 327, 334–40, 342–3, 348, 350, 352, 356, 365, 359a–c); Smith 1979: 148–55, 210–12; Manetti and Roselli 1994: 1546–7, 1595, 1597–1600; Mansfeld 1994: 139, 199–200; Guardasole 1997: 265–98; Ihm 2002: 129–34 (no. 114–23).

⁷⁶ On Bacchius of Tanagra see von Staden 1989: 484–500; 1992; Manetti and Roselli 1994: 1596–8; Mansfeld 1994: 139, 200–1; Ihm 2002: 77–9 (no. 33–7); von Staden 2006: 17–28.

⁷⁷ In addition to his commentary on *Epidemics VI* (n. 55 above), Heraclides of Erythrae wrote a commentary on *Epidemics II* and participated in the debate about the controversial symbols in *Epidemics III*; see von Staden 1989: 555–8; Manetti and Roselli 1994: 1596, 1615; Mansfeld 1994: 139; Ihm 2002: 128–9 (no. 111–13).

⁷⁸ Asclepiades of Bithynia wrote commentaries on *Aph.* and *Off. Med.* and in some form or other dealt with *Epid. III* and *VI*; see Smith 1979: 146–8, 225–9; Vallance 1993: 709; Manetti and Roselli 1994: 1546, 1547, 1616–17; Mansfeld, 1994: 146; Ihm 2002: 72–3 (nos. 26–9).

⁷⁹ Deichgräber 1965: 24–30; Manetti and Roselli 1994: 1594–1600; Guardasole 1997: 265–96.

⁸⁰ On Heraclides of Tarentum as a pupil of Mantias, see Gal. *Comp. Med. Gen.* 2.1, 2.5 (XIII.462, 502 K); *Comp. Med. Loc.* 6.9 (XII.989 K); Deichgräber 1965: 186 (fr. 193, 194, 197); von Staden 1989: 515–16; Guardasole 1997: 24, T11, T14, T17.

the commentaries by Rufus of Ephesus, and perhaps from those by Sabinus and – in both oral and written form – those by the circle of Quintus.⁸¹ But about this he remained mostly silent.

Even when Galen explicitly identified a Hellenistic source of valuable information about early copies of, or variants in, Hippocratic texts, he often kept his silence about how he acquired his knowledge of the source. In his commentary on *Epidemics III*, for example, Galen reported that, according to the Empiricist physician Apollonius Byblas (fl. ca. 150 BC), no early copy of *Epidemics III* had been found to contain the above-mentioned controversial letter-symbols (χαρακτῆρες) appended to Case History 8 in *Epidemics* 3.1, at least not in the version of the symbols considered authentic by the Herophilean Zeno (ca. 225–150 BC). Apollonius Byblas said (thus Galen) that ‘neither the copy in the Royal Library nor the copy from the ships, nor the copy according to the *ekdosis* made by Bacchius has the marks in the way that Zeno wrote them in the case of the young man under discussion in this account’.⁸² But how Galen knew of Apollonius’ claim – directly? or through Zeuxis or Heraclides of Tarentum? or from another source? – he does not reveal to the reader.

Exhibiting a detailed knowledge of Hellenistic commentaries on Hippocratic texts, of Hellenistic copies (ἀντίγραφα) of the texts and of Hellenistic ‘editions’ (ἐκδόσεις), variants, emendations and exegetical disputes was

⁸¹ On their commentaries, see Wellmann 1912: 12–14; Manetti and Roselli 1994: 1580–92, 1600–14; Mansfeld 1994: 134, 200; Ullmann, 1994: 1304–7; Sideras 1994: 1098–9, 1207–9; Ihm 2002: 158–61 (nos. 159–65), 163–4 (nos. 169–71), 168–70 (nos. 180–4), 181–2 (nos. 196–7), 186–97 (nos. 204–29); von Staden 2004: 184, 204–5, 214. I emphasise ‘both oral and written’ commentaries because Quintus, for one, never committed his commentaries – delivered orally as a pedagogic exercise – to writing. For an example of Galen’s use of Rufus as a source on Zeuxis, without explicit acknowledgement that he knew Zeuxis’ readings (οὐρα πέποννα and οὐροισι πέποσι in *Hipp. Prorrh.* 1.59a and 1.102 [V, 524.8–9, 540.5 L] respectively) only through Rufus, see Galen *Hipp. Prorrh.* 2.23 and 2.102 (CMG V.9.2. 73, 121 Diels). See also Manetti and Roselli 1994: 1602–4; von Staden 2006: 36–7.

⁸² Galen *Hipp. Epid. III* 2.8 (CMG V.10.2.1. 87 Wenkebach = Deichgräber 1965: 236 [fr. 342]): ... οὕτω πεποιήται (scil. Ἀπολλωνίου ὁ βυβλάς ἐπικληθεὶς) τὴν ἀντιλογίαν, <οὐδὲν ἀντίγραφον> οὐτε τὸ κατὰ τὴν βασιλικὴν βιβλιοθήκην εὑρεθὲν οὐτε τὸ ἐκ τῶν πλοίων οὐτε τὸ κατὰ τὴν ὑπὸ Βακχείου γενομένην ἐκδοσὶν ἔχειν φάσκων οὕτω τοὺς χαρακτῆρας, ὥς ὁ Ζήνων ἔγραψεν ἐπὶ τοῦ προκειμένου κατὰ τὸν λόγον μειρακίου. Based on Hunain’s ninth-century Arabic translation of this passage, Wenkebach recognised a lacuna after ἀντιλογίαν and proposed to fill it with οὐδὲν βιβλίον. In such contexts, however, Galen tends to use ἀντίγραφον, ‘copy’ [of a Hippocratic text], and here the question is, precisely, (1) whether all early copies of *Epidemics III* contained the mysterious marks or symbols, and (2) whether they all contained the version of the symbols recorded – and accepted as authentic – by Zeno. I therefore propose reading οὐδὲν ἀντίγραφον in the lacuna. For Galen’s use of ἀντίγραφον in his commentary on *Epidemics III*, see, for example, CMG V.10.2.1. 27.22, 28.11, 28.15, 46.19, 77.4, 157.9, 176.15–16; cf. also 69.1, 71.8, 71.11, 72.1, 98.22, 104.24, 109.19, 110.3, 110.5, 156.24–25, 157.17, 168.22 (Wenkebach). On ἐκδόσεις see Dorandi 2000: 77–128; von Staden 2006: 20–5, and Part II above. On the controversy about the symbols and Zeno’s role in it, see pp. 148–9 above (on *Epidemics III*) and n. 65.

thus fundamental to Galen's prolix self-valorisation as a master-interpreter of Hippocrates. But so was his strategy of silence, notably his silence about the degree to which, and the ways in which, his was a derivative, mediated, lacunose knowledge – a silence that allowed him to stage his mastery of Hippocratic exegesis as unmatched in the centuries-long history of interpreting Hippocrates.

Another tantalising silence in the midst of cascades of Galenic words occurs in the preface to his commentary on *In the Surgery*. Galen here distinguished between those Hellenistic commentators, such as the Empiricists Zeuxis and Heraclides of Tarentum, who 'wrote commentaries on *all* the books of Hippocrates' and those who wrote commentaries only on 'Hippocrates' difficult books' namely Bacchius of Tanagra and Asclepiades of Bithynia.⁸³ In his commentary on *Prorrhetic I* Galen repeated the claim that Zeuxis 'wrote commentaries on *all* books by Hippocrates', valorising him as 'the very ancient' or 'most ancient' Empiricist.⁸⁴ Why does he tell his readers this, and how does this historical titbit about the exegesis – centuries ago – of 'all the books of Hippocrates' by two different individuals belonging to different centuries and different milieux (Alexandria, Rome) fit his stated policy of including only what is useful for the practice of medicine, but excluding antiquarianism and 'history' from his commentaries? Once Galen's reader pauses for a second, further questions keep arising. Did Galen, for instance, mean '*all* Hippocratic books' that he himself considered authentic? Or *all* texts, whether spurious or genuine, circulating under the name of Hippocrates in Galen's days? Or '*all* books' that were thought to be by Hippocrates at the times of Zeuxis and Heraclides? And did Galen's silence about the meaning and implications of '*all* books of Hippocrates'⁸⁵ – and about his source for this information – aim to leave the impression that he was familiar with each of numerous commentaries by Zeuxis and Heraclides, and that he himself had perused their commentaries on each and every text by Hippocrates, thereby further reinforcing his self-depiction as having an exceptional command of the Hellenistic exegetical past?

⁸³ εἰς ἅπαντα βιβλία Ἱπποκράτους γράφοντες ὑπομνήματα Ζεύξις τε καὶ Ἡρακλείδης (see n. 59 above).

⁸⁴ Galen *Hipp. Prorr. I*, 2.23 (CMG V.9.2. 73.11–12 Diels = Deichgräber 1965: 227 (fr. 332a): ἐνταυθοῖ δὲ ἐπιτιμῶν Ζεύξειδι τῷ παλαιοτάτῳ ἐμπειρικῷ τῷ εἰς ἅπαντα τὰ Ἱπποκράτους βιβλία γεγραφότι ὑπομνήματα, τάδε φησὶν (*scil.* Ροῦφος ὁ Ἐφέσιος) . . . It is unclear whether Galen here refers to 'Zeuxis, the earliest Empiricist to have written commentaries on all books by Hippocrates' or to 'Zeuxis, the very ancient (or most ancient) Empiricist, who has written commentaries on all of Hippocrates' books'.

⁸⁵ See nn. 59, 84 above. On βιβλίον, βιβλος, ὑπόμνημα, σύγγραμμα and related terms in Galen's works see Mewaldt 1909: 119; von Staden 1998: 67–73, 82–94; Asper 2007: 53–4, 113, 316.

If Galen meant to suggest that he was familiar with Hellenistic commentaries by Zeuxis and Heraclides of Tarentum on *all* of the Hippocratic works he himself deemed authentic or partly authentic in some sense or other, each of the two Hellenistic commentators would have composed more than twenty commentaries, and probably quite a few more. After all, as indicated earlier, we have a reasonable, though far from complete, idea of Galen's views about 'authentic' (γνήσια), partly authentic and 'spurious' (νόθα) Hippocratic texts,⁸⁶ and he himself seems to have written or intended to write commentaries on more than twenty works. If, however, by 'all the books of Hippocrates' Galen meant all the Hippocratic works to which he himself made some reference, the body of exegetical works that he attributed to Zeuxis and Heraclides of Tarentum – and with which, he appears to suggest with deliberate vagueness, he was familiar – would have been considerably larger. As is suggested by the monumental recent collection of evidence by Anargyros Anastassiou and Dieter Irmer, Galen seems to display at least some awareness of more than sixty texts ascribed to Hippocrates,⁸⁷ even if in some cases it is unclear exactly what Galen's views were on their authorship.

In the (much less likely) event that Galen meant all the books of Hippocrates attested to have been available at the time of Heraclides and Zeuxis, one would need to establish which works might have been circulating under the name of Hippocrates in the Hellenistic period. Galen himself referred or alluded to exegetical works by Zeuxis on *In the Surgery*, *Epidemics III*, *Prorrhetic I*, *Epidemics II* and *VI* and *Aphorisms*, and Erotianus seems to imply that Zeuxis also wrote a commentary on *Places in a Human Being*.⁸⁸ Of Heraclides of Tarentum's commentaries, Galen mentioned only those on *In the Surgery*, *Epidemics III*, *Epidemics II*, *IV* and *VI*, and *Aphorisms*.⁸⁹ But numerous other texts were circulating under the name of Hippocrates in the Hellenistic period, as is attested by the fragmentary, yet ample, evidence of commentaries on Hippocratic texts and of Hippocratic lexica composed in the third, second and first centuries BC. Galen

⁸⁶ See Mewaldt 1909, who, however, relies in part on the 'Galenic' commentary on *On Humours* printed in Kühn's edition (XVI. 1–488), apparently unaware that it is a Renaissance forgery. Manetti and Roselli 1994: 1540; n. 27 above.

⁸⁷ Anastassiou and Irmer, 1997–2006: especially vols. II.1 (direct or indirect references to 63 Hippocratic texts in Galen's commentaries and in his Hippocratic glossary) and II.2 (references to 49 Hippocratic texts in other Galenic works).

⁸⁸ See Deichgräber 1965: 24–8, 209, 224, 227–8, 230, 237, 241–7, 249, 263–4 (with fr. 319, 332a, 332b, 337, 343, 345, 346, 350, 351, 354, 357, 361, 365); Guardasole 1997: 265–70, 295–6 (T30–32, F 95); von Staden 2006: 35–6.

⁸⁹ See Guardasole 1997: 265–98 (T29–32, F73–97).

himself explicitly referred to Hellenistic scholarship on the following texts attributed to Hippocrates: *Aphorisms*; *Prognostic*; *Epidemics III*; *Epidemics II*, *IV*, *VI*; *In the Surgery*; *Prorrhetic I*; *On Fractures/On Joints*.⁹⁰ In addition, other ancient sources claim or imply that Hellenistic physicians or grammarians were familiar with at least the following Hippocratic works: *On the Nature of a Child*; *On the Use of Liquids*; *Epidemics I*; *Epidemics V*; *Instruments of Reduction*; *On Places in a Human Being*; *On Diseases I*; *On Sacred Disease*; *On the Nature of Bones*; *On Regimen in Acute Diseases*; *On Wounds in the Head*.⁹¹

This rapid overview suggests that whatever Galen might have meant by 'all the books of Hippocrates', the body of commentaries he attributed to Zeuxis and Heraclides would have been sizable. His silence about the meaning of 'all the books of Hippocrates' might be a reflection of the derivative and lacunose nature of some of his knowledge of the Hellenistic exegetical enterprise. But this silence, like many other Galenic silences, in the midst of so much philological precision and historical detail, and in the course of flooding his readers with particulars concerning Hellenistic scholarship – often intensifying the effect by deploying an iterative rhetoric – served his strategy of self-presentation well, as did many of his other silences.

A century ago Johannes Mewaldt observed, with reference to Galen's relation to the Hellenistic age, that, 'not only as a physician but also where he plays the role of a grammarian and critic, Galen in all matters is thoroughly dependent on the Alexandrians and their progeny'.⁹² This might overstate the case, but it recognises a fundamental feature of most of Galen's extant corpus: its profound, pervasive, often indirect and unspoken indebtedness to Hellenistic writers in a variety of domains, including scholarship on Hippocratic texts. His many allusions to, quotations from and criticism of Hellenistic commentators and lexicographers helped him lay claim to a philological, historical and exegetical expertise that reached from the very beginnings of systematic Hippocratic scholarship in the third century BC to his own time. This, in turn, was central to his self-presentation as the best interpreter and most legitimate appropriator of Hippocrates.

Like many of Galen's rhetorical, stylistic and historiographic habits, so too his theatricality and his vivid, forceful and multi-dimensional self-presentation inevitably invite – indeed, require – a hermeneutics of

⁹⁰ See n. 38 above; Anastassiou and Irmer 1997–2006: vol. I, XXII–XXV, and *passim*.

⁹¹ See von Staden 1989: 486–95; 1992a; 2006.

⁹² Mewaldt 1909: 112: 'denn Galen ist in allem durchaus abhängig von den Alexandrinern und deren Nachwuchs, nicht bloß als Arzt, sondern auch wo er sich als Grammatiker und Kritiker gibt'. See also Kollesch and Nickel 1993.

suspicion on the part of his readers. Disentangling his self-serving, often manipulative instrumentalisation of the Hellenistic past from the real nature and scope of his knowledge of that past remains an elusive target. Yet it would be a mistake to deny that he had acquired a breathtaking, even if frequently indirect, knowledge of Hellenistic versions of Hippocratic texts, of Hellenistic textual criticism and exegetical principles, and of the long, rich history of Hippocratic scholarship in the Hellenistic age – and that he fashioned this knowledge into a significant vehicle of self-presentation.

Galen and Hippocratic medicine: language and practice

Daniela Manetti

There is but one Greece, though many Grecian cities.
When you employ a local word, what *it* is
is Attic; what we Greeks say though, is Greek.
Why be so much concerned with how you speak,
syllables, letters and the rest of it
that you make other folks dislike your wit?

Ἑλλὰς μὲν ἔστι μία, πόλεις δὲ πλείονες·
σύ μὲν ἀττικίζεις, ἥνικ' ἂν φωνὴν λέγῃς
αὐτοῦ τιν', οἱ δ' Ἕλληνας ἑλληνίζομεν.
τί προσδιατρίβων συλλαβαῖς καὶ γράμμασιν
τὴν εὐτραπέλειαν εἰς ἀηδίαν ἄγεις;

Posidippus fr. 30 Kassel-Austin (trans. Edmonds)

At the 2002 Entretiens Hardt, on the topic of Galen and philosophy, I delivered a paper in which I highlighted the complexity of Galen's cultural presuppositions in his concrete analysis of the language of Hippocrates. During the discussion session, I was asked what Galen meant by *sunētheia*, by language usage, a concept I referred to frequently during my presentation. At that particular moment I gave a provisional and summary answer, adding that the point deserved an independent study.¹ On this occasion, I report on at least the first stage of this study.

My investigation will not be limited to the semantics of a single word: rather, I hope to describe in greater detail the approach Galen adopted with regard to the debate that was at the forefront of linguistic culture – and of cultural enquiry in general – during that period, which focused on the question of a model language advocated by so-called Atticism.

More than once Galen expressed reservations about the purism of Atticism. Indeed, in important essays on second-century culture – such as

¹ Manetti 2003: 222–4.

those by Swain and Schmitz^{1a} – Galen is judged to have been relatively little influenced by the Attic model, inasmuch as he was a representative of a ‘technical-scientific’ discipline; yet, it is argued, he was frequently inclined, for reasons of polemic, to present himself as a writer who is perfectly capable of writing correctly according to Attic conventions.² This is on the one hand a limiting judgement, which seeks to underline a sort of contradiction, and on the other, a self-evident fact. Galen himself, boasting that he had received the best possible education, was trained under the prevalent influence of scholastic classicism,³ and the environment he addressed was that of the *pepaideumenoι*, the cultural elite, to whom he presented himself as a scholar who cultivated a discipline, medicine, that stood on an equal footing with philosophy. This was Galen’s intended public, both in the activities linked to his professional career and in his teaching activity. With regard to teaching and the consequent writing of commentaries, Galen states this clearly in his first commentaries *On Hippocrates’ ‘Fractures’* and *‘On Hippocrates’ ‘On Joints’*:

I have told you virtually everything about the structure of the arm that Hippocrates illustrates shortly afterwards at length, and his wording is so clear and well written that it needs little explanation and above all for readers who have received a young man’s education [that is to say, who have a good knowledge of grammar] or who have read the book under the guidance of the masters, for whom the commentaries are written.⁴

So let us now turn to the explanation of the text, limiting ourselves to stating as a premise what we also stated for the exegesis of *Fractures*, namely that the Hippocratic wording is sufficiently clear, and needs very little explanation for those who have assimilated the basic elements of knowledge and are accustomed to reading the language of an ancient author.⁵

^{1a} Swain 1996; Schmitz 1997.

² Swain 1996: 56–62 (he speaks of Galen’s hypocrisy); Schmitz 1997: 82.

³ See e.g. *On the Order of My Own Books* (*Ord.Lib.Prop.*) XIX.59.2–12, where he mentions the education his father gave him, and *Thrasylbulus* (*Thras.*) SM 3.78.4–7, where he admits to having a better knowledge of Attic than other dialects; see Vallance 1999: 232.

⁴ *Hipp.Fract.* XVIII B.335.1–6: εἰρηται σοι δυνάμει πάντα τὰ περὶ τοῦ σχήματος τῆς χειρὸς, ἃ διὰ μακρῶν [Roselli: μικρῶν Kühn] Ἱπποκράτης ἐφεξῆς διδάσκει [Kühn: διδάξει P], λέξει διεξοδικῇ τε [τε add. P] καὶ σαφεῖ χρώμενος, ὥς ὀλίγα πάνυ κατ’ αὐτὴν ἐξηγήσεως δεῖσθαι καὶ μάλιστα τοῖς πεπαιδευμένοις τὴν ἐν παισὶ παιδείαν ἢ παρὰ διδασκάλοις ἀνεγνωκόσιν [Kühn: ἀνεγνώκουσι P] τὸ βιβλίον, οἷσπερ δὴ καὶ γράφεται τὰ ὑπομνήματα. I thank Amneris Roselli, who is preparing a new edition, for the information on the textual tradition of this passage and of *Hipp.Fract.* XVIII B.423.18–424.2 Kühn (below). All translations in this chapter are by Daniela Manetti and John Wilkins.

⁵ *Hipp.Art.* XVIII A.303.14–304.1: πρὸς δὲ τὴν ἐξηγήσιν ἰωμεν αὐτοῦ τοσοῦτον προεπιόντες ἔτι, ὃ καὶ ἐπὶ τῆς περὶ ὀγκῶν ἐξηγήσεως προείπομεν, ὥς ἔστιν ἡ ἐμνηνεία τοῦ Ἱπποκράτους ἱκανῶς σαφῆς ἐλαχίστης ἐξηγήσεως δεομένη τῷ τὰ πρῶτα μαθήματα μεμαθηκότι καὶ εἰθισμένῳ λέξεως ἀκούειν ἀνδρὸς παλαιοῦ.

The public in question is assumed to have received an education that, although it was never regulated by univocal rules, had always been influenced by a classicistic canon, shaped in the Alexandrian era under the influence of philological studies. Anyone who completed the entire programme of training was necessarily familiar with the language of the great Attic authors of the fifth and fourth centuries BC as well as Homer. It is important to bear this in mind when assessing Galen's attitude to the language problem.

Galen also examined the problem of scientific language from a theoretical point of view, but it would be beyond the scope of this chapter to examine his opinions in detail. Certainly, however, when Galen describes the rules for scientific language, he is aware of producing a sort of artificial language, cleansed of the clutter of common speech, the latter being characterised by incoherence, imprecise formulations, ambiguities and homonymy. At the same time Galen seeks to remain close to everyday language: what he aims to achieve is an ideal language endowed with all the communicative potential of everyday language, which needs to be rationalised, not rejected. For this reason he attacks the excessive creativity of some of his rivals, who were writing at about the same time, and he insists strongly on the need to keep to common usage. Behind the notion of general language usage, one can undoubtedly recognise the strong influence of a written tradition, which sets literary authorities side by side and on an equal footing with past heroes of the scientific discipline. Galen gives a detailed analysis of the problem in the treatise *On Medical Names*, indicating the language of ancient Attic comedy as a possible model, as a heritage on which to draw, in particular because it was close to everyday language.⁶

ATTIC AND NON-ATTIC WORDS IN GALEN'S COMMENTARIES

In his exegetical activity, on the other hand, Galen adopts a somewhat different stance, taking into account the need to set Hippocrates within the historical framework of the ancient *sunētheia*, which can be reconstructed on the basis of the evidence from literary sources. He thus aims to defend the prestige of Hippocrates.⁷ However, the Hippocratic style was notably different from the aesthetic models current at Galen's time. Therefore, on the one hand Galen utilises erudite sources to explain Hippocrates' most

⁶ See Meyerhof-Schacht 1931. The subject has been studied by R. J. Hankinson and others in the last twenty years: for bibliography, see Manetti 2003: n. 2.

⁷ Manetti 2003, 172–8. For Galen's strategies in commenting on Hippocrates, see also von Staden in this volume.

arcane expressions and trace them back to an ancient *sunētheia*, while on the other he offers Attic equivalents in order to facilitate understanding for his own public. This approach underlies observations such as the following passage from the commentary *On Hippocrates' Epidemics VI*:

What the Attics call 'abortion', Hippocrates habitually calls 'destruction' and he analogously writes the verbs connected to this word and those described by grammarians as 'participles'. They apply the verb 'to abort' (perhaps some may not know this either) to incomplete expulsion of the foetus, however this may have occurred, and they also call the medicaments that induce this effect 'abortive'. It will be sufficient to have explained the meaning of the expression once, as I have now done.⁸

In effect Attic usage,⁹ contrary to what one might think, represents the glossing language, the means to translate the difficult, or rather the unconventional, elements of Hippocratic style into a language more familiar to the public. That Attic, or better, the educated standard language based on Attic, provided the reference framework for all commentators of the era is by no means surprising. A similar line of reasoning is found in the passage from the commentary on *On Fractures* 8, with regard to the word σκαφεῖον, 'spade, shovel'. Galen says that: 'clearly he (Hippocrates) uses "spade" to refer to the tools we dig the earth with, which include the so-called "two-pronged forks", which the Attics call "two-toothed"'.¹⁰

The only reason to add the Attic name is that he presupposes that the public he addressed is attuned to classicism and in some sense expects such observations. The repertory of the terms relating to the digging tool has a corresponding feature, not by chance, in Pollux's *Onomasticon*, 10.129.1–2.¹¹ Furthermore, Galen never – and this is a crucial point – makes reference to the Attic usage as a criterion for judging the correctness of Hippocratic language, even when he explicitly judges the text he is dealing with to be incorrect. For example, in the commentary *On Hippocrates' Surgery* 10 – 'when things are really going to fall off, it is well that they do so quickly', τὰ δὲ δὴ μέλλοντα ἀποπίπτειν, [κακίῳ] ταχέως ἀποπεσόντων (= III.304.1–3 Littré) – he judges the statement to be incorrect (σολοικός) because of the term ἀποπεσόντων ('falling'):

⁸ *Hipp.Epid. VI* XVIIA.799.6–800.2 = *CMG* V.10.2.2, 6.25–7.4. ⁹ See Poll. 2.7.

¹⁰ *Hipp.Fract.* XVIII B.423.18–424.2 σκαφεῖα [Roselli: σκαφίς P edd.] δὲ δηλονότι κέκληκε δι' ὧν σκάπτομεν τὴν γῆν ἐν οἷς εἰσι καὶ αἱ καλούμεναι δίκελλαι, σμινύας δ' αὐτὰς ὀνομάζουσιν οἱ Ἀττικοί.

¹¹ For the various positions in the Atticist period and in particular Pollux, see Latte 1915: 627–8.

Indeed, with regard to ‘falling’, whether we choose to interpret it *according to the usage of the Attics*, who employ the genitive plural of the participle in the sense of a third person imperative plural, as in the sentence ‘let the horses present themselves for the race’, or whether we understand it as a case of a genitive of the nominative ‘falling’, we will in either case be speaking incorrectly.¹²

The reference to Attic usage represents one of the two interpretative options, but it does not have a prescriptive or impositive role (in any case, it is a solecism). The example used is not identifiable in any known author but has a clear dactylic structure: in any case it seems to derive from the language of sports. Galen continues by supplying the paraphrase of the text according to each of the two interpretative hypotheses, and then he moves on.

Certainly, the attempt to explain and justify the Hippocratic text drew strongly on a written tradition, which was often based on the lexicographical tools that Atticism had developed considerably but which also derived from an earlier stage, namely Alexandrian lexicology. That Galen did not rely exclusively on Atticist lexicographical sources but was also conversant with more ancient sources (with which he had become acquainted through the preceding Hippocratic exegetic tradition or through first-hand investigation) is clear from numerous cases.¹³ I offer a selection of such cases in the following lines, the first of which refers to Hippocrates’ *On Fractures* 2: ‘To come to our subject, a patient presented his arm to be dressed facing downward, but the practitioner made him hold it as the archers do when they bring forward the shoulder and he put it up in this posture.’¹⁴

Galen offers an interpretation that sees ἐμβάλλωσι (‘when they bring forward’) of *Fract.* 2 as embodying a metaphor from nautical language (referring to an attack launched by ships in order to sink the enemy). He then accompanies it with the example of Aristophanes, *PCG* fragment 630 (χωρεῖ ’πὶ γραμμὴν λορδὸς ὡς (εἰς) ἐμβολήν): ‘he goes to the line leaning backwards, as if to shoot’. This suggests, again, a sports contest and is thus more in tune with the image of the archer evoked by Hippocrates’ text. In this case there are no suitable analogues from other lexicons of the time, but

¹² *Hipp. Off. Med.* XVIII B.777.7–12 τὸ γὰρ “ἀποπεσόντων”, ἔάν τε κατὰ τὴν τῶν Ἀττικῶν συνήθειαν εἰρῆσθαι νομίσωμεν, τῶν πτώσει γενικῇ τῆς μετοχῆς πληθυντικῆς χρωμένων ἀντὶ τοῦ προστακτικοῦ πληθυντικοῦ προσώπου τρίτου, ὁμοίως τῷ “ἵπποι δ’ ἐς δόλιχον παριόντων”, ἔάν τε κατὰ τὴν γενικὴν πτώσιν, ἀπ’ εὐθείας τῆς ἀποπεσόντες, σολοικιοῦμεν).

¹³ See Skoda 2001: 177–95, on Galen’s lexicographical culture and practice.

¹⁴ III.416.1–418.3 Littré. τὴν μὲν οὖν χεῖρα, περὶ οὗ ὁ λόγος, ἔδωκε τις ἐπιδῆσαι, πρηνέα ποιήσας ὁ δ’ ἠνάγκαζεν οὕτως ἔχειν, ὥσπερ οἱ τοξεύοντες, ἐπὶ τὸν ὦμον ἐμβάλλωσι, καὶ οὕτως ἔχουσιν ἐπέδει κτλ.

the example is consistent with Galen's interest in the language of comedians, on which he had conducted careful studies to seek to reconstruct underlying common expressions.¹⁵

In the case of *Fract.* 7, in commenting on the expression 'light diet' (δίαιτα ὑποφύλη), Galen considers this as forming part of the usage (*sunētheia*) of the ancients, who all employed the adjective φαῦλος in the sense of 'just any old one, simple'.¹⁶ But he was not satisfied with this explanation and added that the opposite was δίαιτα ἀκριβής 'strict diet' (cf. *Fract.* 26), which the Ionians described by the adjective σκεθρός. The latter term does not appear in *Fractures*, but it is likewise a Hippocratic term, as in, for instance, '*On Joints (Art.)* 50.¹⁷ It had already been analysed in the *Lexeis* of Bacchius of Tanagra, as testified by Erotianus (σ 46, 81.3–9 Nachmanson). The interpretation given by Bacchius (σκεθρός in the sense of 'true' ἀληθής) is contested in Erotianus, where, instead, the explanation 'rigorous', ἀκριβής is put forward. The latter explanation is the version endorsed by Galen's, and it is recurrent throughout the scholiographic and lexicographical tradition.¹⁸ Therefore, there is obviously a scholarly tradition behind this apparently superfluous observation, and it is worth noting that Galen extends his remarks beyond the exegetical requirements of the individual passage, thus setting the expression in the broader lexical system, where some elements are described as Ionian. Galen is the only source to speak of a dialectal classification of the adjective σκεθρός; and he brings up the question of Ionian dialect again when, at the end of the exegesis of the passage, he points out that even the term ἐλινύω ('take rest, repose', used shortly thereafter) is Ionian (404.18). Moreover, the lexicographical tradition preserved by Erotianus (106.10 Nachmanson) likewise indicates that Bacchius had already made a comparison among different local uses, proposing that the Hippocratic form stood in some relation with the usage of the Eleans and the Thimbrians. While Galen suggests an Ionian origin for the verbal form, Moeris, conversely, describes it as Attic (197.7)¹⁹ and so it is clear that here Galen is referring to some other tradition. The verb ἐλινύω 'take rest, repose' is extensively used in Herodotus, but it is also

¹⁵ Deichgräber 1956. ¹⁶ XVIII B.403.13–405.11.

¹⁷ It occurs also in *On Women's Affections*, *Mul.* 1.11 (VIII 42.19 L): the gloss σ 9 (115.9) of Erotianus (σκεθρή: † ὁμοία) is corrupt and could derive, according to Nachmanson (1917: 299–300), from *Epidemics* IV (*Epid.* 4.38).

¹⁸ Erotianus quotes a fragment of Euripides' *Alcmaeon* (*TrGF* fr. 87) to support his interpretation: elsewhere the adjective occurs only in Aeschylus, *Pr.* 102, 488 and Lycophron 270 and afterwards in the grammatical and lexicographical literature. In the scholia on Aeschylus (*sch. vet.* ad *Pr.* 102a) there is a trace of an etymological explanation of the word.

¹⁹ ἐλινύων Ἀττικοί, ἀναπαυόμενος Ἕλληνες.

attested in Pindar, Aeschylus and Aristophanes, as well as in Hippocrates. It is very likely that the forms attested by Herodotus were considered to be evidence of ancient Ionian.²⁰ In at least one case, Galen seems to authorise a deduction of this kind: in the commentary *On Hippocrates' 'On Joints'* he seems to use Herodotus as a representative of the Ionians, to explain the meaning of the adjective μετεξέτερος:

It is possible to learn in Herodotus above all that, for the Ionians, 'μετεξετέρη' did not mean anything more than 'ἐτέρη' does among us: for he often uses it, as well as the form 'μετεξέτερον'.²¹

Once again, the explanation of the meaning and the reference to Herodotus both rest on Bacchius and the immediately subsequent lexicographic tradition (Erot. μ 18, 60.17 Nachmanson), which is a little different from that of the later lexicons, inasmuch as the meaning of 'other' preserved by Galen is omitted in the latter lexicons, and only the meaning of 'some' remains.²²

In any case, the example reveals one of the criteria normally followed by ancient lexicography, that of using literary sources for the reconstruction of the dialects. A similar case is found in the explanation of the term στενυγρός²³ and the related forms στενυγρῶσαι²⁴ and στενυγροχωρή.²⁵ In various passages,²⁶ Galen argues in favour of the Ionian origin of the adjective, equivalent to στενός 'narrow', which is confirmed by the evidence of Semonides (fr. 14 West), and he rejects the etymological interpretation of the word as a compound of στενός ('narrow') and ὑγρός ('humid'), which, on the other hand, is the version endorsed by Erotianus.²⁷

In the case of the definition of 'daily' fever (ἡμεμερινός), in the commentary on *Epidemics* I²⁸ Galen asserts that he is against the innovations introduced by the *neōteroi*, the contemporary doctors who have set up a further distinction in the classification of fevers and brought in an additional

²⁰ But one must bear in mind that in the second century AD Herodotus and other Ionian authors had become part of an enlarged canon, see Latte 1915: 626–7.

²¹ XVIII A.599.9–14 ἐνεστι [η] μὲν παρ' Ἡροδότῳ (Ἡροδότῳ L, Ἡρόδοτον Kühn) μάλιστα μαθεῖν οὐδὲν πλέον [η] σημαίνειν παρὰ τοῖς Ἴωσι τὸ "μετεξετέρη[ν]" τοῦ παρ' ἡμῖν ἐτέρη [του]: πολλάκις γὰρ αὐτῷ (Kühn: αὐτῶν L) κέχρηται, καθάπερ καὶ τὸ (τοι L, τῷ Kühn) "μετεξέτερον".

²² Hsch. μ 1069; *Glossae in Hdt.* 1.20 Stein; Suid. μ 763: all referring to Hdt., 2.36.2.

²³ *Epid.* 5.48 = V.236.3 Littré. This is a dubious text, because the manuscripts MV have ξυνάγων ὑγρόν.

²⁴ *Epid.* 6.2.1 = V.276.4. ²⁵ *Art.* 14, v.l. of στενοχωρή codd.

²⁶ XVII A.896.9–897.9 = *CMG* V 10.2.2, 60.8–17; XVIII A.411.8–16; XIX.140.11.

²⁷ σ 12; 77.21 Nachmanson. ²⁸ *Hipp.Epid. I*, XVII A.221.1–5 K = *CMG* V.10.1, 111.25–8.

term, καθημερινός. As always, Galen's objection was to *leptologia* (excessive subtlety), which in his view was never found in the ancient authors. Even more explicitly, in the treatise *Differences of Fevers*, Galen argues that he had never found the new term attested in ancient Greek authors (in this comment, he is explicitly accusing his opponents of speaking Greek incorrectly):

I am accustomed to calling such a fever 'daily (ἡμήμερινός) and continuous': firstly, the word 'καθημερινός' cannot be found written *in any of the Greek authors*, but instead they call the entire concept of what happens like this every day ἡμήμερινός.²⁹

'In any of the Greek authors' means, in this case, in Plato's *Timaeus* (86a4), Hippocrates³⁰ and the medical tradition that derives from his work (for instance Aretaeus). The reference to the written tradition is in this case certainly connected to the language discussion set in an Atticist context, because the definition of ἡμήμερος πυρετός appears in the Atticist lexicons with an explicit reference to medical language.³¹

However, if one analyses the setting of the passage from *Diff. Febr.* carefully, it becomes clear that the contrast that worried Galen was not so much that between the Attic or erudite, written tradition and the recent or popular, spoken language. Rather it was between a consolidated medical tradition of classification and technical language and the intrusion of an inappropriate multiplicity of distinctions, which, while drawing on common everyday language, had the unfortunate effect of disrupting the balance of the tradition. This is clear from what he says afterwards (355.2 K), when he gives his own definition of 'daily fever' for the sake of clarity and states that he will *not* add any further distinctions.

Galen was very eager to be able to demonstrate the continuity of tradition, in particular tradition in language. The *sunētheia* of the ancients and Hippocrates should by rights be seen as forming part of contemporary language and were not mere relics. Thus, whenever possible, the appeal to literary sources concludes with observations on modern usage, almost as if to testify that there is no contradiction between literary authorities and usage.³²

²⁹ *Diff. Febr.* VII.354.14–16. ³⁰ Cf. Kühn and Fleischer 1989: 35.

³¹ Compare Phrynichus, *PS* 43.3 ἡμήμερος πυρετός (Soph., *TrGF* fr. 466) ὃν ἡμήμερινόν οἱ ἰατροί; Moer. 189.29 ἡμήμερες – Ἀττικοί: τὸ γὰρ κατ' ἐνιαυτὸν ἡμήμερες λέγουσιν, ὡς ἡμήμερινόν τὸ καθημερινόν. τὸ δὲ κατ' ἔτος Ἑλληνες.

³² Cf. also *Hipp. Epid.* VI.XVIIA.985.2–5 (*CMG* V.10.2.2, 110.6–8).

In the commentary on *Art.*³³ Galen states that, even among the ancients, the adverb μόλις-τα can mean 'roughly, in the main', as in this passage. He cites Thucydides (1.118) and Andocides (*On the Mysteries* 38), but immediately afterwards he is concerned to show that this usage extends to almost all the Greeks.

Galen sometimes gives hints suggesting that he is familiar with a large part of the lexicographical tradition, but he avails himself only of those aspects he wishes to emphasise.³⁴ In the case of the ἄμβη, the wooden implement for the reduction of dislocations, described in *On Joints* 7, he gives a synthetic explanation of the term ἄμβη 'edge, border'³⁵ to which a great deal of attention had been devoted by the most ancient doctors and grammarians. Both the *Lexicon* of Erotianus³⁶ and also the so-called commentary *On Hippocrates* 'On Joints' by Apollonius of Kition³⁷ refer back to the *Lexeis* of Bacchius with the citation of a considerable number of authors.³⁸

From the two sources, despite the truncated and partly corrupt form of the citations, it becomes clear that a major role was played by the *Lexeis* of Aristophanes of Byzantium, who may perhaps be responsible for the mention of authors such as Aeschylus. Galen was certainly conversant with this material, as can be seen from the gloss, ἄμβη, in his *Glossary of Hippocratic Terms* (XIX.77.7) and as is also shown by the fact that he furnishes a clarification that harks back to the explanation provided by Bacchius, and that he also cites the same comic fragment that is attested there, albeit in an anonymous and paraphrased form.³⁹ But what Galen utilises is only a minimal part. He singles out only the fact that ἄμβη corresponds to the Attic ἄμβων, and to confirm this he cites the comic fragment; however, he points out that ἄμβη is an 'Ionian' word.

³³ 31, XVIII A.449.14–450.14.

³⁴ For the nuanced and varied forms of Galen's appropriation of earlier exegesis, see von Staden in this volume.

³⁵ XVIII A.340.9–341.5. ³⁶ α 103, 23.8–24.6 Nachmanson. ³⁷ CMG XI.1.1, 28.1–18.

³⁸ Aristophanes of Byzantium fr. 337 Slater (1986: 112–13): following Nauck, he attributes to Aristophanes only the first of the three interpretations offered for the two terms: a) ἄμβων crest of a hill (Rhodians, Aeschylus); b) ἄμβη 'the overhang of the rim which runs around the hollow area, rim or felloes of a wheel' (Democritus, perhaps from a different lexicographical source, whose name in Erotianus is corrupted); c) ἄμβων raised edge of a dish (Aristophanes, but actually Eupolis). The text of Apollonius of Kition presents many problems, but apparently quotes literally passages from Bacchius, on which the error of Aristophanes for Eupolis seems to depend: the wrong name has been transmitted to all the later lexicographical tradition (see Slater 1986: 113). On the two terms: Ross 1971: 248–9.

³⁹ Erotianus quotes it as a passage from Aristophanes' *Autolycus*, while Apollonius says only 'Aristophanes' and Galen talks of 'a comic poet': actually it is Eupolis fr. 60 Kassel-Austin.

Here too, then, the overall effect is that the reference to Attic usage merely serves the purpose of 'translating' into an apparently better known language the term that was characteristic of Hippocrates and that, once again, is attributed to the Ionian dialect. This characterisation of ἄμβη does not appear in the other lexicographical sources, whereas the term ἄμβων had already been classified as Attic by Aristophanes of Byzantium and was subsequently also analysed by Atticist sources such as Phrynichus and Aelius Dionysius.⁴⁰ However, there is a trace of a 'dialect-based' interpretation of the term ἄμβη in Apollonius of Kition. Apollonius argues polemically against the erudite citations derived from Bacchius' *Lexeis*, noting that they were far removed from the context, and he emphasises the need to refer instead to the dialect of Cos, where the word indicates a step in a flight of steps. In this observation one may note a certain affinity between Apollonius and Galen, even though it reveals a two-fold level of analysis, one referring to local modes of speech (Cos), the other to a more abstract entity such as the dialect of the various ethnic groups (parallel to the Aeolian, Doric and Attic dialect). In fact, Galen quite frequently points out that Hippocratic usage can be explained in terms of dialects, mainly described as Ionian but sometimes, on the other hand, pertaining to the specific usage of Cos. It is therefore worth investigating further in this direction.

DIALECT, SPOKEN LANGUAGE, ASIAN USAGE

In commenting on the sentence of *On Joints* 30 'the jaw is rarely dislocated, but often makes a side-slip in yawning' (ἐκπίπτει μὲν γνάθος ὀλιγάκις, σχᾶται μέντοι πολλάκις ἐν χάσμασιν) Galen offers an analysis of the context in order to elucidate the meaning of the verb σχᾶται. He concludes that it indicates a sudden movement away from the natural position, a falling movement, to be compared with the language of gymnasiums and with the expression σχαστηρία (release-mechanism) used at Cos and in almost all the Greek cities, although always in a sporting context.⁴¹ Here there is no literary reference; but there is a link to the living contemporary language and in particular to that of the homeland of Hippocrates.⁴² Even in an erudite commentary on a difficult text such as the sixth book

⁴⁰ Phryn. *PS* 18.3; Poll. 6.97; Ael. Dion. α 96. ⁴¹ XVIII.438.2–3.

⁴² Already Artemidorus Capiton and Dioscurides had taken into account the dialect of Cos, but commenting on *Epid.* 6.8.23 (V.352.8–9 Littré) Galen says that most manuscripts offered the text in common Greek: 'But the school of Capiton and Dioscurides all write these words in the dialect of Cos' (*CMG* V.10.2.2, 483.24–30). Galen accuses them of being sophists, because the different readings do not concern the meaning of the text.

of *Epidemics*, one finds a reference to the contemporary usage of Cos and more generally to the Greek of Asia.⁴³ The importance of Galen's frequently exhibited knowledge of the contemporary *sunētheia*, in particular that of the Greeks of Asia, could be demonstrated by dozens of examples in the commentaries on Hippocrates.⁴⁴

It thus becomes obvious that Galen was not referring to standard Greek of literary origin, which constituted the educated language of the time, but rather, specifically, to the spoken usage of the region he knew best, the Greek province of Asia.⁴⁵ The definition 'Greek of Asia' recurs numerous times in Galen's works, and is clearly distinct from the more general definition of Greek usage ('the language of the Greeks', Ἑλληνικὴ διάλεκτος, 'Greek usage', συνήθεια τῶν Ἑλλήνων).⁴⁶ For example, in the treatise *Differences of Pulses* (*Diff.Puls.*) Galen puts forward his arguments against the classification made by his predecessors, in particular by Antigenes, and indulges in a long polemical argument based on constant reference to an opposition between the Greek *sunētheia* and barbarisms. What he has in mind is an abstract and atemporal concept of language, which is based on the scholastic tradition and the written tradition.⁴⁷ One of his points is that certain expressions are never found in any author.⁴⁸ In other words, the concept he has in mind is fairly close to that of the *koinē* in the ancient grammarians. Contrary to what this implies in the modern age – that is to say, Hellenistic popular Greek, spoken or written – this consists in an abstraction, 'a standard written and spoken non-territorial – and therefore also not Attic – Greek, felt to be substantially correct by learned men'.⁴⁹ It is perhaps no coincidence that this is the only place, and the one and only

⁴³ *Hipp.Epid.* VI XVIII.929.2–7 = *CMG* V.10.2.2, 79.14–19.

⁴⁴ For example *On Hippocrates*' *'Nature of Man'* (*HNH* XV.122.11 = *CMG* V.9.1, 62.32–4); *On Hippocrates*' *'Regimen in Acute Diseases'* (*HVA* XV.554 = *CMG* V.9.1, 182.3–5). See also the passage from the commentary on Hippocrates' *On Airs, Waters, Places*, quoted by Strohmaier in Manetti 2003: 224.

⁴⁵ See *On Hippocrates*' *'Regimen in Acute Diseases'* (*HVA* XV.773.4 = *CMG* V.9.1, 291.17–19). Reference to spoken language is not however restricted to Asian usage, but takes into account also other spoken local usages Galen was acquainted with, for example in the commentary *On Hippocrates*' *'Epidemics'* VI (*Hipp.Epid.* VI XVIII.38.11 2 = *CMG* V.10.2.2, 144.5–7): after the erudite quotation of Thphr. *HP.* 1.8.6 (γόγγροι) to explain 'γογγρώνει' (*Epid.* 6.3.6, V.296.1 Littré) Galen refers to the local usage of Thessaly that he has heard about.

⁴⁶ For the 'Greek of Asia' see e.g. *Hipp.Epid.* VI XVIII.190.11 (*CMG* V.10.2.2, 231.7–9); XVIII.322.10 (*CMG* V.10.2.2, 328.17–18): in many passages on the same subject quoted by Herbst, 1911: 59–61, the expressions παρ' ἡμῖν and πρὸς ἡμῶν καλούμενον are used. For the occurrences of the more general Greek or Hellenic usage see the passages collected by López Férez 2005.

⁴⁷ *Diff.Puls.* VIII.497.2–5. ⁴⁸ VIII.578.18.

⁴⁹ Cassio 1991: 82–3. For the identification Ἑλληνες = κοινὴ συνήθεια, see Herbst 1911: 9–10; for the grammarians such as Herodian, Stephan 1889: 89–105. On the expression παρ' ἡμῖν in Aristophanes of Byzantium, referring to contemporary usage, Tosi 1994: 160. See also Morgan 1998: 161–2.

occasion, where Galen utilises the expression κοινή διόλεκτος, alluding to the polemics concerning its nature:

... we defend the so-called common language, whether it be only one of the varieties of Attic, given that the language of the Athenians has undergone many mutations, or whether it be quite another thing.⁵⁰

By contrast, the status of the so-called 'Greek of Asia' is completely different, as can be seen in the commentary *On Hippocrates' 'Epidemics III'*:

he said 'shadowy' in the sense of obscure, which means that which is not bright or pure or precisely clear. Even today the Greeks of Asia are in the habit of using the form σκιώδες or σκιαρά to describe all things that shade towards black.⁵¹

The line of reasoning adduced here thus sets up a link between a word such as the adjective σκιώδης, 'shadowy', which is by no means rare, and the contemporary use of the Greeks of Asia, and it is only at a second stage of reasoning that its presence among the ancients is also admitted (655.7–9). This is a specific exegetical strategy, which seeks to highlight the connection between Hippocrates and the 'spoken' language. The 'Greek of Asia' always has a positive connotation.⁵²

Further cases can be examined. On several occasions Galen attributes to Hippocrates a deliberate reference to the usage of his time and traces of certain structural characteristics of the spoken language. One noteworthy instance is found in the commentary on *Fract.* 31,⁵³ where Galen states that the noun κατάσταςις, 'reduction' of dislocations, can be explained once one realises that the Greeks of Asia use the corresponding verb in the sense of 'putting back in its right place'. If Hippocrates, Galen argues, drew on this 'local' meaning to create the appropriate noun for this context, then the reading κατάσταςις should be maintained, in contrast to the position held by those who contend it should be written as κατὰσταςις 'extension' (which – we might add – is a *lectio facilior*). The comparison between the language of Hippocrates and the usage of speakers in Asia is thus an important hermeneutic and critical tool for solving difficult cases.⁵⁴ However, at times such comparison merely fulfils the purpose of justifying imprecise or overly elliptical expressions found in Hippocrates, which are

⁵⁰ VIII.584.18–585.2. ⁵¹ *Hipp.Epid. III* XVIIA.655.1–3 = *CMG* V.10.2.1, 113.22–5.

⁵² Note the difference from the notion of 'Asian' (Ἀσιανός) or 'of Asian origin' (Ἀσιαγενής) used by the grammatical tradition: here 'Asian' is always opposed to 'Attic' and tends to be labelled as barbarism: see Latte 1915: 623–4 and n. 31.

⁵³ XVIIIIB.590.14–591.3.

⁵⁴ Galen also adds a technical observation: this reduction is performed by lifting, not by extension.

explained away simply by pointing out that such expressions are often used in common language.⁵⁵

Galen's exegetical activity on Hippocrates often treats dialectal classification or spoken usage in a parallel manner. From the point of view of philological theory, the presupposition of such an attitude is that difficult points in an author can be interpreted by making reference to dialectal glosses or to local speech. This is a principle that can be traced back to the analyses of glosses described by Aristotle in his *Poetics* (21, 1457b.5–7), and it was widely adopted in Alexandrian philology by Aristophanes of Byzantium in his lexicological research (though not by Aristarchus in his Homeric criticism), as well as by many others.⁵⁶

The attention to Ionian forms also tells us something about Galen's general opinion on the language of Hippocrates, which he may have expounded in his treatise *On the Language of Hippocrates*, but unfortunately this work has not come down to us. The passage in which Galen compares the Hippocratic style to that of Xenophon,⁵⁷ on account of the use, mainly, of current words (πολιτικά) but also of figures or 'glosses', reveals Galen's approach. In particular, the term γλωσσηματικός indicates regional items or terms used in certain individual cities⁵⁸ and if the adjective πολιτικός is effectively equivalent to 'Attic',⁵⁹ it would appear that the language of Hippocrates must be based on an underlying layer of ancient Attic in which, however, there is a considerable frequency of Ionian or regional words and figurative expressions. That certain Hippocratic expressions often have an Ionian character is thus set in its natural context, not to mention the biographical aspects pertaining to the dialectal expressions of Cos. It is evident that the dialectal traits in Hippocrates have a two-fold significance, distinguishing the words that can be traced back to the broader entity of the dialect of the ethnic group, Ionian – which is also based on the literary tradition – from those traceable to more localised uses, such as those from the city of origin or specific spoken forms. Therefore attention to local forms and to contemporary speech forms part of the same methodological

⁵⁵ *Hipp. Fract.* XVIII A.419–20: Galen reminds us of an ambiguity in common language, that has no relevance for therapy; XVII B.462.11: sometimes Hippocrates uses the kind of ellipses typical of common language, see *Hipp. Aph.*; XVII B.739.13: Hippocrates uses a generic expression as is usual among all Greeks even now.

⁵⁶ Latte 1925: 641–9 (Homer's exegesis), 649–66 (lexical collections); Pfeiffer 1968: 78–9; Tosi 1994: 143–78. For the Hellenistic grammarians who refer to local usage, see for example Agathodotes of Cyzicus' quotation of a word used in Pergamum (fr. 10 Montanari 1988), quoted by Cassio (1996: 162). Cassio analyses – in various disciplines – the continuity of literary writing in Ionic during the Hellenistic age and underlines the point that many authors intended both to show a cultural lineage and to differentiate themselves from the *koinē*.

⁵⁷ *Hipp. Art.* XVIII A.414.15–415.6.

⁵⁸ See *sch. in DT* I.3, 739.27.

⁵⁹ Herbst 1911: 4–6.

framework: investigations of dialects conducted in the Hellenistic age were not restricted to literary testimony but also gathered a huge quantity of documentary material from official public records and also from surveys of actual speakers, a large part of which can be found today in the works of Apollonius Dyscolus and Herodian.⁶⁰

Galen was thus basing his considerations on a complex idea of language usage or *sunētheia*: indeed, what he had in mind was a multiplicity of levels and uses. The first was the use that was current among the ancients, based on a certain canon of authors, and this was necessary for historical exegesis of Hippocrates.⁶¹ The second was the general use among the Greeks, which corresponded to the educated usage of his contemporaries. This too was based on a canon of authors, but it also included a role for dialects (based on literary sources or not) and local forms of speech, in particular those of the Greeks of Asia.⁶²

LOCAL USAGES AND LOCAL WORDS IN THE PHARMACOLOGICAL TREATISES

The points put forward so far do not exhaust the range of the many references to uses current in Asia, which are often accompanied by the expression 'among us' or by the adjective 'our', often with further specification on the actual geographical extension. References to Asian linguistic usage are better understood if one bears in mind the larger context of the relationship between Galen and Asia. Such references, in fact, are frequent not only in the commentaries but also in pharmacological treatises, where the majority of references to uses current among the Greeks of Asia concern language phenomena, especially with regard to vocabulary items. This phenomenon should not be a cause for surprise because pharmacology and the fields of botany and zoology are spheres of lexical overabundance. Plants and animals are called by many different names in various different geographical areas, and in the Roman world – which one might in some sense describe as 'globalised' – knowledge of a broad range of terminology was certainly necessary on a practical level for those who wished to practise this branch of medicine.⁶³

⁶⁰ Cassio 1991: 74–7; 81–5. ⁶¹ Manetti 2003, 171–8 and related bibliography.

⁶² Standard Greek is the language based on classic literary models but it is also spoken to a certain extent: so, between literary *sunētheia* and educated spoken language, there is not the gap presupposed by Versteegh 1987: 251–74.

⁶³ Barnes 1997b; Wilkins 2003: IX–XXI; 2005: 128. Lists of synonyms existed already from a long time before Galen in the botanical and zoological written tradition: Latte 1925: 653, who notes Wellmann 1898: 361.

Yet, if one reflects that Galen, as he himself admitted more than once, composed some of these works when he had already been long immersed in a Roman environment,⁶⁴ the question as to the underlying reason for so many references to the usages current among 'our Greeks of Asia' may arise quite naturally. Galen's linguistic curiosity was certainly profound, and it is manifested not only by his technique of supplying all the possible Greek synonyms for the types of food, plants, minerals or animals he mentions,⁶⁵ but also by his comparisons to other languages, such as Latin. Among the writers of the period, Galen was perhaps one of those who showed the greatest knowledge of Latin usages and expressions of relevance to medicine in all its branches and to other fields of knowledge as well. For example, he took care to mention the ancient and modern variants of the name of Vesuvius, which surely were of no importance for the medical context.⁶⁶ This may have been simply an irresistible erudite temptation or a concession to the Roman public he was addressing, but his interest in local expressions went hand in hand with a genuine curiosity concerning non-linguistic uses and aspects as well. In the field of pharmacology the role of personal experience is, of course, more evident and more widely recognised than in other treatises by Galen. Another characteristic feature is the link that can often be noted between references to local uses – whether language-related or otherwise – and personal experience connected with the previous written literature. Here are a few examples.

In the treatise *On the Properties of Foods* 1.13 (6.513.16 ff.), in which he speaks of various types of cereals, after citing passages from Diocles and Mnesitheus, he adds elements from his own personal knowledge as a commentary on the passage by Mnesitheus:

I have not seen every northern country, nor have I heard from anyone else who has seen these places of a cereal grain which is called by the locals one-seeded wheat (*zeia/zea*), for the word is found written both ways, in some texts with the first syllable ending in e and i, in other texts with just an e. One can observe, however, that the Greeks use the above name for this grain, whilst foreigners affix to it their

⁶⁴ For example *On the Therapeutic Method*, MM X.454.16–455.2 διατρίψας δ' ἐν Ῥώμῃ τὰ πλεῖστα τῷ τῆς πόλεως ἔθει συνηκολούθησα.

⁶⁵ For the existence of an ancient scientific tradition of lists of synonyms in botanical and zoological treatises, see Latte 1925: 653.

⁶⁶ *On the Therapeutic Method*, MM X.364.8–13. On Galen's knowledge of Latin words, see Herbst 1911: 137–8; already Erotianus (58.17 Nachmanson) quotes the grammarian Polemarchus, who refers to a Latin word, probably a loan from a zoological treatise (Latte 1925: 653 n. 52). On the comparison between the Greek (improper) and Latin (better) term for 'brain', see Manetti 2003, 207–8. At least once again Galen claims that the Latin σίλιγνις 'fine wheat flour' (= *siligo*) cannot be substituted by an equivalent term in Greek: *On the Properties of Foods* (Alim. Fac.) VI 483.13–484.1.

own term. Noticing many fields in Thrace and Macedonia that contained a plant that both in its ear and its entirety resembles the einkorn growing around me in Asia Minor, I asked by which name those people called it, and they all replied that the whole plant (including its seed) is called rye (*briza*), the first syllable being written with a b, an r, and an i, the following syllable with a z and an a, when in the nominative case, but obviously with an n when in the accusative case.⁶⁷

The investigation on the local Thracian and Macedonian denomination of the cereal, which can be regarded as a secondary element within his text drawn up for teaching purposes, in actual fact testifies to Galen's personal investigation, which has the overall function of confirming the text of Mnesitheus. Therefore the procedure of checking the texts on the basis of personal experience is a highly relevant feature of pharmacological treatises. Galen believed that, even if one should always start out from the tradition of previous authors, it is always necessary to verify both details and individual opinions.

He also displays a genuine anthropological interest in local customs, which goes beyond the explanatory requirements of the context. At times one finds an almost Herodotean Galen, who tells of experiences he had while carrying out research to verify specific recipes. For example, there is a veritable travelogue in the passage from the treatise *On the Properties of Simple Drugs* (SMT XII 168–78) where Galen speaks of the 'earth of Lemnos', which is also called 'seal of Lemnos' or '*miltos* (red ochre, ruddle) of Lemnos'. It is so called because it is marked by a seal with the image of Artemis or because of the colour.⁶⁸ The link between this narrative passage and the pharmacological content of the treatise is his reading of a recipe by Dioscorides, which mentions a medicine containing goat's blood and earth from Lemnos. The description of his two journeys undertaken to check out this passage from Dioscorides has all the ingredients of a true adventure story. There is a description of the itinerary, or rather of the two itineraries he followed, which is supplied for the benefit of future travellers. Galen talks about the events that befell him during the journeys: on the first journey he did not achieve his goal because he was unaware that there are two cities on the island of Lemnos (Ephaestias and Myrina), and he landed at the wrong one. Since he was unable to persuade the sailor who was transporting him to wait while he investigated, Galen was forced to set sail again without completing his study and he therefore had to go back again on the occasion of another journey from Rome to Asia Minor. In his depiction of Lemnos he portrays the local religious

⁶⁷ VI.513.16–514.15.

⁶⁸ The passage (and the drug) has been analysed by Marganne 1997: 158–64.

rites, because the so-called ‘earth’ is gathered only by the priestesses of the temple of Artemis, and he also recalls the mythical link between the island and Hephaistos, based on a rather controversial Homeric line.⁶⁹ In the course of his account, *en passant*, Galen even provides a rationalistic aetiology of the myth narrated by Homer. In the narration one notes the Herodotean feature of the search for oral witnesses, namely learned men of the place, to whom he turned for information and who, Galen relates, burst into laughter when he asked them about the presence of goat’s blood (and this puts Dioscorides in his place). Finally he obtains written sources as well, namely treatises by local erudite thinkers with a recognised cultural background, and thus he achieves the final reward – after having at last been able to appreciate the value of the preparation made of Lemnian earth – that is, a few thousand tablets of ‘earth of Lemnos’, a precious treasure for his future activity as a doctor.

I have cited a lengthy passage, but there exist many other observations that are much less extensively developed than this veritable excursus, and they often centre on the motif of the *sunētheia* of ‘our Asia’ or the usage of ‘the Greek of Asia’.⁷⁰

* * *

Simon Swain briefly mentions the numerous occurrences of similar expressions and describes them as a symptom of Galen’s character as a ‘Greek intellectual without Rome’.⁷¹ However, it seems somewhat reductive to view these aspects as merely reflecting Galen’s sense of belonging and allegiance to his own origins, and I do not feel that one can detect in them anything that is even implicitly anti-Roman. On the contrary, I would argue that such an attitude is linked to the assertion of an identity, whose reference point is more decidedly the Greek rather than the Roman area. Asserting one’s Asian identity in the cultural climate that was dominant in Rome as well – a climate that was characterised by Atticism – effectively meant claiming equal dignity with the Atticist tradition. It meant asserting one’s own role as a member of contemporary Hellenism, in which Asia placed a far greater role within the Empire than did the representatives of an Attica that was by now reduced to museum status, venerable – to be sure – by virtue of its tradition, but no longer a direct protagonist.⁷² It

⁶⁹ XII.173.8: Galen quotes *Il.* 1.593 (see also *sch. ad loc.* and Heraclit., *All.* 26).

⁷⁰ See e.g. *SMT* XII.312.8 on the properties of viper’s blood. Galen relies on his personal experience and is going to narrate an episode of it; *On the Composition of Drugs according to Places* (*Comp. Med. Loc.*) XII.542.5–16; XIII 1–14.

⁷¹ Swain 1996: 377–8. The characterisation of Galen is quoted from Desideri 2000: 14.

⁷² Sartre 1991: on Greece, 199–238, on Asia Minor, 257–308.

has often been noted, in fact, that the majority of second-century Greek intellectuals came from the rich province of Asia.

Full-blown pride at the integration of a vast area of the eastern Mediterranean into Greek culture is a phenomenon noticeable as early as the first centuries of Hellenism, as I have tried to show in interpreting the polemics of the grammarian Herodicus of Babylon against the Aristarcheans:⁷³ indeed, this is the reason underlying my choice of the fragment from Posidippus the comic poet as the epigraph of this chapter

Galen reveals an attitude analogous to that of Sextus Empiricus when he enters into polemic against the excesses of the Atticists. Like Sextus Empiricus (*SEM* I.228–9), but without his ideological opposition, Galen is aware that there are many *sunētheiai* and that one must know them and use them while adapting them to the contexts and the public that is being addressed. The relationship with one's public is always the decisive element. I believe this is the proper interpretation of the passage from *On the Properties of Foods*⁷⁴ in which Galen criticises those who recommend Attic words as if they were speaking to Athenians of six hundred years earlier and not to contemporary Greeks.⁷⁵ For Galen, Greek civilisation in Asia is the legitimate heir of the great Attic culture of the fifth and fourth centuries, and it is a living community of educated men, who have a perfect command of the cultural and linguistic tradition of the Greeks. These men often play an important role in the social panorama of the Empire and thus have every right to criticise parts of a tradition to which they feel they fully belong, a tradition which cannot be denigrated by the exacting demands of purism.⁷⁶

⁷³ Manetti 2002: 191–7. ⁷⁴ *Alim.Fac.* VI.633.4. ⁷⁵ Herbst 1911: 11 and Swain 1996: 57 n. 59.

⁷⁶ Actually Hellenistic lexicology had been generally more open-minded towards language and this technical linguistic heritage was still visible, in Galen's time, in the approach of certain lexica, like the so-called *Anti-Atticist*, which can be traced back directly to Aristophanes of Byzantium, see Tosi 1994: 162 and n. 37.

*Galen's bios and methodos: from ways of life to path of knowledge**

Véronique Boudon-Millot

It is clear that Galen's medicine is first and foremost a rational type of medicine, based on the supremacy and value of his method. Galen dedicated a major work, in fourteen books, to the fundamental principles of this method: *On the Therapeutic Method* (MM) (Kühn X. 1–1021).¹ At the same time, the story of his life and autobiographical anecdotes play an exceptional part in Galen's work. This point has been noted, as the combination of scientific and autobiographical writing remains highly original in medical literature.² However, as far as I know, the extent of the linkage between the methodological objectives of Galen, the physician, and the autobiographical project of Galen, the writer, has never been fully brought out. I am, however, deeply convinced not only that there is a strong and unbreakable link between *bios* and *methodos* (life and method) in Galen's work, but also that he sees this link as having a particularly important part to play in the acquisition of every kind of knowledge. That is to say, the *bios–methodos* combination undoubtedly lies at the heart of the world of knowledge to which ancient medicine so powerfully contributed.³ In late antiquity, Galenic medicine was at the forefront of Greek literature: it maintained very close and original ties with other disciplines such as history, rhetoric and philosophy, and made a truly major contribution to the construction of the world of learning.

* I wish to thank Evelyne Samama for helping me to translate my text into English. The translation has been further revised by the editors of the volume.

¹ See L. Agrifoglio 1961; Frede 1981: 65–86; Vegetti 1981: 47–63; Hankinson 1991a: 15–29.

² See Ilberg 1905: 276–312; Bowersock 1969: esp. 59–75, The prestige of Galen; Scarborough 1981: 1–31; Nutton 1972: 50–62 and 1984: 315–24; Moraux 1985b; Boudon-Millot 2000b: 440–66; Schlange-Schöningh 2003.

³ On this topic, see von Staden's thought-provoking discussion, 1997a. He explores the relationship between moral character and professional competence (for example, the moral inseparability of the professional and the personal) not only in the Roman Empire but also in the Hellenistic period and even in Classical texts such as the central section of the Hippocratic *Oath*.

WALKING ON TWO LEGS

We should remember that in *methodos* the obvious component is *hodos*, the 'path' or the 'way'. From his earliest years, Galen walked simultaneously along the paths of life and the paths of knowledge. Most of Galen's stories about his childhood and youth are well known and represent a gold mine for his biographers.⁴ In these stories about his own development, I would like to stress the methodological aspects of the biographical anecdotes. In this context, Galen's *On the Composition of the Art of Medicine* (CAM) seems particularly revealing, as he closely interweaves methodological requirements and autobiographical information, while enumerating the seven conditions necessary for discovering the truth:

What peculiar conditions should come together to enable the truth to come out, whatever the research may be, or if not so, to avoid despair in the search? Clearly, there are seven. First, a sharp nature (ὀξεῖα φύσις), so that whatever logical science is taught, it may be easily followed. Secondly, an education and training from childhood on (ἡ ἐκ τῆς παιδικῆς ἡλικίας ἀγωγή τε καὶ ἄσκησις), so that the child takes part in primary studies, and is then trained in particular in arithmetic and geometry, as Plato recommends. Thirdly, an attentive ear should be tuned to those who are considered the best minds of the time (τοῖς κατὰ τὸν ἑαυτοῦ χρόνον ἀρίστοις εἶναι δοκοῦσιν). Fourthly then, one must be most hard-working (φιλοπονώτατον), so that one's studies are the only thing to attract one's attention by day or by night. Then, fifthly (and this applies only to a few), to seek for the truth and to have that as one's only serious aim throughout life (ἀληθείας ὀρεχθῆναι καὶ τοῦτο σπουδάσαι μόνον ἐν ᾧ παντὶ τῷ βίῳ), despising all the other things that concern most people. Next, the sixth condition is to learn a method thoroughly (ἐκμαθεῖν τινα μέθοδον), by means of which the truth may be distinguished from the false. The reason for this is that to discover what we are searching for, merely desiring the truth is not enough, we have also to provide the means to discover it. Seventh, and finally, to practise the method (ἀσκῆσαι τὴν μέθοδον), so as not only to understand it, but also to be able to use it. For if rhetoricians, who go in quest of an inferior art, consider it insufficient to know the method (οὐχ ἱκανὸν εἶναι δοκεῖ τὸ γινῶναι τὴν μέθοδον), but practise continuously during all their lives (ἀλλ' ἐν ᾧ παντὶ τῷ βίῳ τὴν ἄσκησιν αὐτῆς μεταχειρίζονται), how could those whose researches are much more important be satisfied with learning only the method (μόνως ἐκμαθεῖν τὴν μέθοδον)? Thus, if one who leads the way down the path of truth misses only one of these conditions (τῷ καθηγουμένῳ τῆς ἐπὶ τὴν ἀλήθειαν ὁδοῦ), it is right to expect that he may not achieve completely what he is aiming for. But if all the conditions are fulfilled, what hinders him from seeking the truth with good hope of success?⁵

⁴ Not only in Greek but also in Arabic, see Meyerhof 1929: 72–86; Boudon-Millot 1994–5: 61–79.

⁵ Galen, CAM I.6 (Kühn I.244–5; CMG V.1.3, 71.23–72).

This quotation, though long, seems to me necessary, as it forms a real 'discourse in method' (to use Descartes' term). Curiously, however, and in the middle of a treatise devoted entirely to method, Galen puts method only sixth (one from last) in his requirements for the pursuit of the truth. The five conditions preceding the presentation of the *methodos* are all prerequisites concerning *bios*. Several qualities required to reach the truth and to walk in the paths of knowledge depend on a person's nature and individual character. It therefore seems necessary, from the beginning of life onwards, to be endowed with a 'sharp nature' (the first condition), to work continuously, showing no fatigue (the fourth condition) and to show an exceptional desire for the truth (the fifth condition). To these innate qualities daily practice must be added, depending on each person's character, such as elementary training and exercises practised from childhood (the second condition) or a readiness to listen to the best teachers (the third condition). So the *methodos* appears doubly dependent on the *bios*: first, it can only take embryonic form in a person who is naturally gifted and second, it can only grow in someone who has adopted the proper way of life, that is, regular engagement with practice and exercises (the seventh condition). Finally, the teacher's way of life is of particular importance, as it can be used by the student as a criterion for determining 'those who seem (δοκοῦσιν) to be the best minds of the time' (the third condition). The *bios* consists in one's individual existence and the way of life (of the teacher or the student); it can also be understood in a third sense, the lifetime, as in the famous first Hippocratic aphorism 'Life is short, Art is long'.⁶

So *bios* must be understood broadly and can have three different senses:

- the individual life with its innate qualities;
- the way of life that a person has adopted and cultivated;
- the lifetime.

To put it in other words, the *methodos* develops alongside the *bios* in these three senses. To progress in life in the sense of proceeding along the paths of knowledge, it is essential to walk on both legs, those of *bios* and *methodos*. We have now to examine the different senses of *bios* and the part these play in building up the *methodos*.

INDIVIDUAL LIFE AND *METHODOS*

The link between the innate qualities of a man and the acquisition of the *methodos* is vigorously maintained by Galen and appears as a well-known

⁶ Hippocrates, *Aphorisms* I.I.

theme in the Galenic corpus. To illustrate this thesis, Galen often has recourse to a model that is particularly dear to him and is none other than Galen himself. One single and often quoted excerpt should be enough to illustrate the first meaning of *bios* (individual life) as a first condition of the *methodos*: 'It is just possible that someone might be able to do justice to both studies, that of medicine and that of philosophy; but such a person would have to be endowed with a sharp intellect, a good memory, and a desire for hard work.'⁷ It is consequently not surprising that an exceptional person so naturally gifted, and also wealthy, would receive the most profound admiration. Even the young scholars around Galen perceived his superiority.⁸

However, all these inborn qualities would not produce anything if they were not supported by regular practice and a training programme that sets out the way of life for every one seeking the truth. I come now to the second meaning of *bios*.

WAY OF LIFE AND *METHODOS*

The *methodos* is a demanding mistress, requiring undivided attention and, as for a top sportsman, continuous effort and daily training. The young student, as well as the teacher himself, must jointly submit to a demanding and tireless quest for the truth. Both, though at different levels, are obliged, if they want to reach their aim, to respect a set of rules and a well-defined way of life. Galen's own account of the first years of his education is a faithful description of the *bios* that everyone seeking the truth should adopt. The first rule is to work tirelessly. Galen's first years seem to consist entirely of the time he spent studying in the various schools:

This, then, was the kind of training that I had from my father. On completion of my fourteenth year, I began to attend the lectures of philosophers in my home city – mostly those of a Stoic, a pupil of Philopator, but also for a short time, those of a Platonist pupil of Gaius . . . Then there was another fellow citizen too, who had returned from a long trip abroad – a pupil of Aspasius the Peripatetic; and, after him, another from Athens, an Epicurean.⁹

Galen does not hesitate to continue in this way, always broadening his field of study: 'So I applied myself to all the most reputed Stoic and Peripatetic philosophers of the time.'¹⁰ His diligence, however, is far from being

⁷ Galen, *Ord.Lib.Prop.* 4 (Kühn XIX.59, *SM* II.88, Boudon-Millot 2007a: 99). When possible, I quote the English translations of Singer 1997. The other translations are mine.

⁸ Galen, *MM* VIII.3 (Kühn X.560–1).

⁹ Galen, *Aff.Dig.* 8 (Kühn V.41, Magnaldi 1999: 48–9).

¹⁰ Galen, *Lib.Prop.* 11 (Kühn XIX.39, *SM* II.116, Boudon-Millot 2007a: 164).

rewarded and Galen is often disappointed, especially when he finds out that the philosophers disagree with each other, and, worse, with themselves. So he decides to search for a method of demonstration, as he describes in *On the Formation of the Foetus* (*Foet. Form.*):

And so I presented myself to one such person first of all, in the hope of hearing from him proofs of the same sort as I had learned in geometry. But when I realised that, so far from producing geometric-style proofs, he could not even utter rhetorical proofs, I moved to another; he too began from his own personal assumptions, proceeding to prove the opposite to the previous philosopher. I tried a third, too, and a fourth; and from none of them, as I have said, did I hear a flawless demonstration.¹¹

Faced with this series of disappointments, Galen applies the second rule: searching by himself for the best possible method (ἐξήτησα μέχρι δεῦρο κατ' ἑμαυτον εὐρεῖν), while maintaining, at the same time, continuous practice and training. For without training, method is useless. The real world is so complex and composed of elements so closely related that no one could claim to distinguish between items so similar in appearance without relying rigorously on observation.¹² Galen is firmly convinced that observation and regular practice are necessary for the *methodos*, and he goes on repeating this as often as he can, both orally and in writing:

And now you will assuredly hear again what you hear me always saying and writing:¹³ the general method (ἡ καθόλου μέθοδος), divorced from training in many particular cases, cannot produce a competent practitioner of an art. You can observe the importance of practice in all such arts. In some its power is so great that whereas the general method can be completely mastered in but a single year, yet if practice is not lifelong (εἰ μὴ δι' ὅλου τοῦ βίου γένοιτο), it hinders the work of the art. Logic, rhetoric, and instrumental music are clearly seen to be arts of this type. Logical demonstration does not require so much practice, but it too demands no small amount.¹⁴

So the *methodos* appears to be doubly dependent on the *bios*: its undertaking depends not only on the way of life (composed of work and training), but also on the time one can give to learning and practice during one's lifetime.

For even if Galen does not make the claim clear in the last quotation, the *methodos* requires not only a way of life that is admirable, but also demands

¹¹ Galen, *Foet. Form.* 6 (Kühn IV.695–6, *CMG* V.3.3, 100).

¹² See Galen, *Hipp. Elem.* 1–2 (Kühn I.413, *CMG* V.1.2, 56 ff.).

¹³ On the importance of speaking and writing in the Galenic corpus, see Boudon-Millot 2004.

¹⁴ Galen, *PHP* IX.2.23 (Kühn V.743, *CMG* V.4.1.2, 550).

the entire life of those who adopt it (in the third meaning of *bios* defined above).

LIFETIME AND THE *METHODOS*

Galen expressed this last requirement clearly in a chapter of *On the Order of My Own Books* (*Ord.Lib.Prop.*), where he connected the three meanings of the word *bios* we already mentioned: innate qualities, way of life and lifetime:

And yet even with this great good fortune, and the fact that I was able to learn whatever I was taught thoroughly and more quickly than anyone else, I would still have gained very little understanding if I had not devoted my whole life to the cultivation of medical and philosophical studies.¹⁵

Galen's reflection takes further the traditional theme of the brevity of life versus the length of art, for if devoting someone's life to the *methodos* seems to be a necessary condition, it will not emerge as a sufficient reason for success. Sometimes, however, we have to admit that the truth will not be reached, but without falling into despair. This is the dark conclusion to which Galen comes at the end of his life, in the *Foet.Form.*, where he confesses to having definitely abandoned pronouncements on certain topics relating to the origin of life or the constitution of animals:

Much grieved at this, I have sought with my own resources to find a watertight argument regarding the constitution of animals. But I found none. I admit this fact in the present treatise; and I call upon the best philosophers engaged on this matter, if they find some clever solution, to share it with us without jealousy.¹⁶

What should be said about those, such as the Methodists, who pervert the Hippocratic precept, claiming without hesitation that 'Art is short, Life is long'? To this statement, Galen answers, with humour, in the *On Sects for Beginners* (*Sect.Int.*): 'Once you have removed everything that has been falsely considered as helping the art of medicine, and look at the basic general states alone, medicine does not appear any more as difficult or long, but as simple, clear and something that may be learnt entirely in six months.'¹⁷ This Methodist conception of medicine has often been described as totally opposed to the Galenic but it has perhaps not been understood just how irreconcilable they were. Whereas the Methodist

¹⁵ Galen, *Ord.Lib.Prop.* 4 (Kühn XIX.59, *SM* II. 88, Boudon-Millot 2007a: 100).

¹⁶ Galen, *Foet.Form.* 6 (Kühn IV.695–6, *CMG* V.3.3, 100).

¹⁷ Galen, *Sect.Int.* 6 (Kühn I.83, *SM* III.15).

physician claims to need less than six months to learn his art, Galen would say that three lifetimes would be insufficient:

For there is so much in things that is obscure that, even if we lived three times the life we now lead (ὥστε εἰ καὶ τριπλασίονα βίον ζήσοιμεν οὐ νῦν ζῶμεν), we would not perhaps know everything exactly, and this is why Hippocrates said 'Life is short, Art is long'; so how could anyone spending his time in occupations that have nothing to do with the art be anything else than absurd? As if he had time to spare to learn it, and searched for what was essential in his leisure time.¹⁸

More than our lifetime, over which we have no control, it is our way of life and our longing to devote ourselves completely to study and practice that will guarantee the success of the *methodos*. Our *bios* has no value other than what we make of it, so the way of life, more than the lifetime, appears as a determining factor in undertaking the *methodos* successfully. One condition, however, appears to be necessary for the completion of this fine programme: the *bios* must be a most faithful and sincere reflection of the *methodos*. In other words, what guarantees that the teacher acts as he speaks, that his appearance corresponds to his being? This guarantee is the conviction that, for every intelligent man, *bios* and *methodos* necessarily obey the same rules and necessarily use the same tools: experiment and reasoning.

APPEARANCE AND BEING

Celebrity and reputation are determining factors in the choice of a good teacher. Galen explains, as we noted earlier, that he followed the lessons of 'all the famous Stoics and Peripatetics of the time'.¹⁹ Political life within the city obeys the same rule: one of Galen's teachers was called by his fellow citizens to hold public office, precisely because he was held in high esteem:

I began to attend the lectures of philosophers of my home city . . . but also for a short time those of a Platonist pupil of Gaius. This was because of the lack of leisure of this philosopher, who was persuaded into political activity by his fellow citizens, as they considered him the only man who was upright and indifferent to money, as well as being accessible and mild-mannered (ὅτι μόνος αὐτοῖς ἐδόκει δίκαιός τε καὶ χρημάτων εἶναι κρείττων, εὐπρόσιτός τε καὶ πρῶτος).²⁰

¹⁸ Galen, *Diff.Puls.* III.1 (Kühn VIII.637).

¹⁹ Galen, *Lib.Prop.* 11 (Kühn XIX.39, *SM* II.116, Boudon-Millot 2007a: 164). Galen's father had investigated the behaviour of each of his teachers before handing his son over to them.

²⁰ Galen, *Aff.Dig.* 8 (Kühn V.41, Magnaldi 1999: 48–9).

This system is based on trust, and supposes that being corresponds with appearance. This is why Galen, in *MM*, violently condemns teachers who neglect facts and experiment, who make serious mistakes in their reasoning, as they try to give the appearance of knowledge instead of seeking the truth:

For general methods are not sufficient for an exact knowledge. Better than examples are what we have seen with our own eyes; so that if all those who undertake to teach or to write made it clear by means of facts before beginning, the errors in their speeches (ψευδῶς . . . λεγόμενα) would be reduced to a minimum. But, in fact, most of them start teaching things they have never worked on in practice, nor proved to anyone else. So it is not surprising that most of the physicians neglect ethics, trying to appear learned (δοξοσοφίαν) rather than searching for the truth. This is not the way I behave. I have loved philosophy not only yesterday or the day before, but since my youth and I devoted myself to it. Later, as my father was led to his decision by a very vivid dream, I came to the study of medicine and, during all my life (δι' ὅλου τοῦ βίου), I applied myself to both sciences, in actions more than in words. So it is not surprising that, while others keep paying their visits about the town, have dinner and visit the richest and most powerful men, I spend this time working, first to learn what of value the ancients have discovered and then to judge the value of these discoveries by using facts, and urging myself to put these discoveries into practice.²¹

The way of life of the real physician, as well as the real philosopher, must prove its sincerity and authenticity, first of all and mainly, through facts. This is the meaning of the regime of training (ἄσκησις), without which, says Galen, method is worthless. But Galen does not only denounce the depraved effects of social life on the quality of teaching. His criticism goes much further: as the same causes bring the same effects, those who live their lives following bad principles will consequently have false scientific arguments. For, just as experiment and reasoning (λόγος καὶ πείρα) are the tools necessary for the application of every correct method, so these two principles are needed to guide us in our lives. This is exactly what Galen says in the *MM*: 'To judge, one can either use experience (τῇ πείρᾳ) or reasoning (τῷ λογισμῷ), because there is no third means, neither for any art nor for our entire life (οὔτε κατ' ἄλλην τέχνην οὔτε κατ' ὅλον τὸν βίον).'²² Galen is particularly attached to this idea, and repeats it in the *On Treatment by Bloodletting* (*Cur.Rat.Ven.Sect.*):

And, as all the matters of enquiry require two tools, reasoning and experience (λόγον καὶ πείραν), for any discovery in all the arts, and not less in our whole

²¹ Galen, *MM* IX.4 (Kühn X.608–9).

²² Galen, *MM* IV.4 (Kühn X.272).

life (ἐν ἀπάσαις ταῖς τέχναις, οὐχ ἥκιστα τε καθ' ὅλον τὸν βίον), I consider it necessary to seek for discovery of the facts before us, by using reasoning alone or experience alone, or both together.²³

Insofar as we use the same tools to live our lives and to improve the method, the excellence of our way of life guarantees the supremacy of our *methodos*, the *bios* being some sort of a reflection of the *methodos*. From this point of view, the respectability of the *bios* is an excellent criterion for an evaluation of the *methodos*. Conversely, if the teacher's *bios* is built on misleading appearances, his *methodos* is at great risk of following false principles. Nevertheless, the ideal of an equivalence between *bios* and *methodos* has its limits: Galen obviously knows that, to captivate the audience, some do not hesitate to show off or use sophistic arguments, as Plutarch explains, speaking of physicians: 'It is not, obviously, typical of a friend, but of a sophist, to swagger about, emphasising other people's errors in front of an audience, as do some physicians, who perform surgery in the theatre in order to increase their business.'²⁴

In contrast with this spectacular type of medicine, trust, based on mutual acquaintance, remains the crucial element. Naturally, such a condition is easier to fulfil within the circle of a small provincial community than in the larger context of the capital city. Galen had to find this out at his own expense, and, disappointed at his experiences in Rome, he confides with a touch of nostalgia: 'Now that I have joined issue with them and uncovered their ignorance, I shall leave this great and populous city for that less populous town where we all know one another, our parentage, our education, wealth, manner and way of life (καὶ τρόπου καὶ βίου).'²⁵ Experience, if not based on reasoning, may be insufficient, especially when the teacher intends to deceive. In this case, only reasoning, the second tool of the *methodos*, may prove to be an effective weapon, for instance to disclose the mechanism of false syllogisms. However, the use of reasoning follows special rules that remain beyond the understanding of those who have not been taught logic. Galen explicitly repeats this point in a key excerpt of the *Ord.Lib.Prop.*, to which Jaap Mansfeld has already drawn attention.²⁶ Galen declares that the person who has no *methodos*, meaning that he has not been taught logic or practised the theory of demonstration, may even so be able to use the *bios* as the only criterion for choosing the right teacher and reaching knowledge:

²³ Galen, *Cur.Rat.Ven.Sect.* 3 (Kühn XI.255).

²⁴ Plutarch, *How to Tell a Flatterer from a Friend*, *Mor.* 71A.

²⁵ Galen, *Praen.* 4.17–18 (Kühn XIV.624, *CMG* V.8.1, 92).

²⁶ Mansfeld 1994.

Apart from this, someone who has put me to the test in respect of the entire conduct of my life (ἐπὶ τε τοῦ βίου παντός) and practice of my art; who realises that the nature of my soul (περὶ μὲν τοῦ τρόπου τῆς ψυχῆς) is such that all my actions are performed without enmity, competitiveness, or irrational love towards any sect; who realises, further, that the facts of the art bear witness to the truth of my opinions – such a person will be able to derive benefit from my writings even without logical theory (χωρὶς τῆς ἀποδεικτικῆς θεωρίας), though only in as much as he acquires correct opinion, not that accurate knowledge of the facts (οὐ κατ’ ἐπιστήμην ἀκριβῆ τῶν πραγμάτων . . . ἀλλὰ κατὰ δόξαν ὀρθήν) which is only available to those practised in logic. Correct opinion was fairly characterised by the ancients as equal in value to knowledge in the practical context, but lacking the stable, reliable nature of the latter.²⁷

In making this statement, Galen does not seem to notice that he risks coming to an impasse: the confidence invested in the teacher by a student lacking training in logic can only be blind, as the two fundamental tools of the *methodos* are missing, namely experience and reasoning, those two defences set up by Galen to unmask charlatans.²⁸

Furthermore, the trust granted to the teacher’s *bios* or to his way of life can only be a stop-gap limited to a narrow provincial circle and to the small group of those who have not been taught logic. These young men may reach an appropriate opinion on the content of an education, but cannot get as far as the exact knowledge that results only from the *methodos* supported by the resources of logic. As for the deep and almost blind confidence that the student grants to the teacher’s way of life, it necessarily relies on the latter’s obligation to adapt his *bios* to his *methodos*, and to match perfectly his appearance with his being. Not only must the teacher justify his reputation, but his actions also must faithfully reflect his teaching. Such ethical and deontological requirements are surprising, all the more so when they are expressed within a profession with the poor moral standards that medicine had during the Roman Empire. Did Galen, so quick in denouncing the failings of his contemporaries, turn, at the end of his life, into a gentle idealist? I think not. Far from being a simple wish, this Galenic ideal of a life lived in full accordance with the methodological principles is, in fact, built on most authentic foundations of ancient philosophy and has its roots in the traditional Greek education that Galen received when he was young.

²⁷ Galen, *Ord.Lib.Prop.* 2 (Kühn XIX.53–4, *SM* II: 83.10ff., Boudon-Millot 2007a: 91–2). See the commentary of Mansfeld 1994: 117ff.

²⁸ See Boudon-Millot 2003a; Pormann 2005.

THE BEST DOCTOR IS ALSO THE BEST OF ALL MEN

Galen does not content himself with declaring that *bios* must be consistent with *methodos*. This assertion is built on a sincere conviction and has its roots in the long philosophical tradition of which Galen is both the defender and the heir. Galen indeed always tried to apply this maxim to himself, adopting from his youth on, and thanks to his father's advice, a certain attitude towards life. This attitude can be defined as a strong detachment from the goods of this world: to have enough to eat and to take daily care of one's body is considered sufficient. Thus freed from materialist concerns, the spirit will reach serenity and will be entirely devoted to study. Obeying the recommendations of his father precisely, Galen tries to set his advice on *methodos* and *bios* on the same footing, doing his best to stay out of any sect during his study, and in his personal life maintaining the greatest detachment from the goods of this world:

These, then, I said, were the precepts I took from my father; and I keep them to this day. I do not declare allegiance to any sect, rather subjecting them all to a thorough examination; and I remain calm in the face of all events that may befall me from day to day (πρὸς τὰ κατὰ τὸν βίον ὁσημέραι συμπίπτοντα) – the same quality that I observed in my father. There is no loss that has the power to cause me grief (except perhaps the loss of all my possessions – that I have not so far experienced). Under my father's training I developed the habit of scorn for honour and reputation, and of respect for truth alone.²⁹

If the serenity of the scholar is a serious guarantee of a true and sincere approach to the scientific process, Galen does not intend to limit himself to implementing his father's precepts in his own personal experience. In addition, he shows no hesitation in proselytising, and trying to convert his friends and students to his way of life, anxious to show the path of serenity to those who have not been trained in this path from their youth onwards. He adds: 'Even those who were not fortunate enough to get this from their early training will be able to attain it later, thanks to the path that I have pointed out (δι' ἧς εἶπον ὁδοῦ).'³⁰ The path to be followed before gaining the *methodos* consists in 'applying the doctrine (that is, giving up greediness and being self-sufficient) in every daily task' (τὴν δ' ἐκ τῶν κατὰ μέρος ἔργων ἄσκησιν ἐκάστης ἡμέρας ποιουμένου ἐπὶ τοῖσδε τοῖς δόγμασιν),³¹

²⁹ Galen, *Aff.Dig.* 8 (Kühn V.43: Magnaldi 1999: 51).

³⁰ Galen, *Aff.Dig.* 9 (Kühn V.52: Magnaldi 1999: 60).

³¹ Galen, *Aff.Dig.* 9 (Kühn V.52: Magnaldi 1999: 60).

in other words, acting in conformity with the principles mentioned above. However, the path is beset with pitfalls which risk discouraging even those convinced of its utility. To succeed, the students will have to follow a teacher whose example can guide their steps and make their spirits free and beautiful:

Those, however, who are in the grip of moderate affections, and able to recognise a little of the truth of the above statements, will be able to make their soul free and noble, by the ministrations of reason, if they follow the course already outlined: that is, to appoint a monitor or trainer (ἐπόπτην τινὰ καὶ παιδαγωγόν) with the task of restraining them for the stronger affections by constant reminders, by criticism, exhortation and encouragement as well as by presenting himself as an actual example (ἐαυτὸν τε παράδειγμα παρέχων) of those statements and exhortations.³²

To stay beyond reproach in order to lead others to copy one's conduct as an example is, for Galen, 'the one lesson which no one could begrudge his fellow man' (καίτοι μόνου τούτου τῶν μαθημάτων οὐδεὶς τῷ πέλας δύναται φθονῆσαι).³³ Once we have gained this liberty of thought and freed ourselves of passions, we feel free to welcome the truth and follow the path of knowledge. The respectability of one's *bios* is then no longer a simple guarantee of the truth and authenticity of the *methodos* implemented by the teacher, but becomes its main and necessary condition. The intellectual training (ἄσκησις) practised by the teacher and required from the students becomes a necessary vehicle to the path of knowledge.

Can this attitude be considered original? Certainly not, for Galen's conviction that real virtue is necessarily expressed in actions is also the opinion of many philosophers to whom Galen feels close. These are not his contemporaries, who are philosophers in name only, but the ancients, whose actions were in accordance with their moral standards and whose scientific principles matched their observation of facts. One of these ancient philosophers is Aristippus, about whom Galen tells the following story in his *Protrepticus*:

Think of Aristippus' first reaction when his ship was destroyed and he was washed up on the coast of Syracuse. His confidence returned when he saw a geometrical diagram on the sand: he deduced that he had arrived among Greeks, among wise men, not among barbarians. Later, on reaching the Syracusan gymnasium, he uttered the following words: 'Who will receive the outcast Oedipus/Upon this

³² Galen, *Aff.Dig.* 10 (Kühn V.53; Magnaldi 1999: 61).

³³ Galen, *Aff.Dig.* 10 (Kühn V.54; Magnaldi 1999: 63).

day, with some very humble gifts?' As he stood there, people came up to him and, realising who he was, immediately gave him all he needed. And when he was asked by some people who were about to set sail for Cyrene, his homeland, if there was any order he wished to give to his family, he said: 'Tell them to acquire such possessions as would float with them even in the event of shipwreck' (τὰ κτήματα ἃ καὶ ναυαγήσαντι συνεκκολυμβήσει).³⁴

Aristippus, whose shipwreck was widely reported by Greek, Arabic and Hebrew authors,³⁵ exemplifies here one of these authentic philosophers who considered knowledge one of the most precious possessions, that would float in all cases of shipwreck during a lifetime, to accompany a man into his old age and to the end of his life. The message placed by Galen at the end of Aristippus' speech says precisely this: knowledge is the one possession that can be gained with certainty for a lifetime, that can be carried everywhere and that can be enjoyed until the very end of life.

A philosopher, for Galen, is a man known by his choice of life, who considers the acquisition of knowledge as the major human possession. In this, the physician of Pergamon acts as the worthy heir of a long philosophical tradition that considers the way of life of the philosopher as the most important. As Pierre Hadot writes, 'philosophy in the Hellenistic [and Roman] period took on the form of a way of life, an art of living, and a way of being. This, however, was nothing new; ancient philosophy had had this character at least as far back as Socrates.'³⁶ In this respect, the Aristotelean way of life, the life of the scientist devoted to study, is doubtless the closest to Galen's way of life.

It is in Plutarch's work that we find, in a discussion of political action, the exact parallel to Galen's words, when he refers to the philosopher par excellence, Socrates:

Socrates did not set out benches or seat himself in a chair or observe a fixed hour for conversing or taking a walk with his pupils; he presented his philosophy while he jested with them on occasion, drank with them, served in the army or lounged in the market-place with some of them, and finally was imprisoned and drank the poison. He was the first to show that life at all times and in all parts, in all experiences and activities, universally admits philosophy (πρῶτος ἀποδείξας τὸν βίον ἅπαντι μέρει καὶ χρόνῳ καὶ πάθεσι καὶ πράγμασιν ἅπλῳς ἅπασι φιλοσοφίαν δεξόμενον).³⁷

³⁴ Galen, *Protr.* V.5 (Kühn I.8–9, Boudon-Millot 2000b: 90).

³⁵ See Zonta 1995: esp. 81–93; Strohmaier 2003: 307–29. ³⁶ Hadot 1995: 268–9.

³⁷ Plutarch, *Whether an Old Man should Engage in Public Affairs*, *Mor.* 796D (trans. Fowler 1936: 145–7). D. Babut drew attention to the link between *bios* and philosophy in the *Moralia* in 1969: 276, n. 4.

Galen thus shares with many of his contemporaries the idea that a philosopher can be recognised and identified from the outset by his way of life. This conviction is found repeatedly in the works of Plutarch, in the *Lives of the Philosophers* of Diogenes Laertius or in the *Lives of the Sophists* of Philostratus. About a century later, Synesius of Cyrene (bishop in AD 405), in *Dio or The Way of Life True to its Model*, stated that Dio, as both philosopher and Sophist, escapes every attempt at classification because he adopted different ways of life in succession:

Philostratus of Lemnos, writing the *Lives* of the Sophists who lived down to his time, divides them, from the beginning of his work, into two categories. . . . He puts Dio with the latter, among whom he lists Carneades of Athens, Leo of Byzantium and many others who lived according to philosophical principles, but cultivated a Sophistic style. . . . As far as his ideal of life is concerned, Dio is not a philosopher and he must not be put with those named above, but with Aristocles, although his development was the reverse of the latter's . . . Dio progressed from being a thoughtless Sophist, and ended up as an accomplished philosopher. . . . It was his biographer's task to bring out these two strongly contrasting aspects of the man.³⁸

CONCLUSION

I hope to have shown that the theme of the *bios* and the autobiographical story in Galen's work are not a simple ornament, but play a real epistemological role. By demanding of the physician the same requirements as those traditionally asked of the philosopher, Galen raises medicine to the level of philosophy. By connecting closely the human qualities of a physician with the excellence of his knowledge, Galen refuses to separate the man from the physician, the human being from the practitioner. For if 'the best doctor is also a philosopher', as Galen proclaims in the title of one of his treatises, the best doctor is, first of all, an excellent person, a human being endowed with virtues and exceptional personal qualities. This ancient conception of *bios* and *methodos* may seem far removed from the supremacy given in contemporary medicine to a definitive diagnosis and precise technical intervention. There was recently, however, an unexpected echo in another field of excellence, namely sport, when the uncle and trainer of the Spanish tennis player Rafael Nadal, winner of the French Open at Roland Garros

³⁸ Synesius of Cyrene, *Dio or The Way of Life True to its Model* 1 (eds. Lamoureux and Aujoulat 2004: 140–1).

in 2005, was interviewed by some journalists from the French newspaper *Le Monde* (Friday, 3 June 2005). Urged to explain the success of his nephew, he told them: 'The essential value of a player is his value as a person.'

So says Galen, when he asserts that the best doctor is also a philosopher, by which he means the best type of human being. With this message, he gives us a lesson for life as well as a lesson in method.

*Does Galen have a medical programme for intellectuals and the faculties of the intellect?**

Jacques Jouanna

This discussion was prompted by a colleague who asked me recently whether there was a branch of medicine for intellectuals in antiquity. My initial response, before I knew the reason for his question, was ‘no’. Some time later, as I continued to ponder the question, I asked him why he had put it to me. He replied that it arose from the *De Triplici Vita* of Marsilio Ficino. The first of Ficino’s three books is entitled, *Primus de uita sana, sive de cura ualeitudinis eorum, qui incumbent studio litterarum* (Book One, *On the Healthy Life, or On Preserving the Health of Those Who Study Literature*). Since Marsilio Ficino, the son of a famous doctor, was familiar not only with Plato but also with Galen, two philosophers whose authority he appeals to in the preface of his *De Triplici Vita*, I became interested in discovering how far one can talk of a branch of medicine for the intellectual faculties in Galen, or for those who embody these faculties, namely intellectuals.

This line of enquiry falls on the borderline between the study of education or training and of therapy in its more familiar or conventional forms. There is, of course, a rich body of ancient theory about the training of the intellect, above all, Plato’s elaborate educational programme in the *Republic* centred on a combination of mathematics and dialectic (Book 7, 521c–540c). Galen himself has much to say about his own education¹ and about training in proper forms of methodology for medicine and other intellectual activities.² On the other side, Galen is, of course, a major theorist of medical therapy (primarily directed at the body) in *On the Therapeutic Method* and elsewhere.³ He also contributes, in shorter essays, to the well-established tradition of ancient writing offering therapy for the

* This chapter has been translated by the editors of the volume.

¹ See *Aff.Dig.* V.41–2; *Lib.Prop.* XIX.16–17, 39–40; *Ord.Lib.Prop.* XIX.59.

² See Hankinson, ch. 10 below; also refs. in following notes.

³ See e.g. Frede 1985 and Hankinson 1991b, Introduction.

errors and passions of the soul.⁴ However, the question tackled here is intermediate between these more familiar branches of enquiry. After examining Galen's definition of the intellectual faculties, I explore how far Galen sees the mind or intellect, as well as the body, as amenable to quasi-medical treatment. Of course, in ancient terms, medical treatment includes what we moderns might call 'preventive medicine', that is, training in regimen or lifestyle. However, the key feature of this topic is that the intellect is conceived as part of the body, or, at least, an integral part of the embodied human being viewed as an aspect of the natural world. Hence, environmental factors and exercise or sport are seen as playing a positive role in the therapy of the intellect and not just the body of the intellectual.

This discussion relates to the larger aims of this volume in two main ways. First, in clarifying Galen's thinking about the training and development of the intellect, it also illuminates his view of how we acquire knowledge, whether technical or philosophical. In particular, this line of enquiry throws light on what we might call the psychological (or psychophysical) preconditions of knowledge.⁵ Galen, approaching the topic from a medical perspective, shows how the intellect, viewed as part of the body, is amenable to a programme of training and therapy that enables it to play its natural role of acquiring knowledge. Second, the discussion helps to locate Galen in what the volume calls his 'world of knowledge'. Exploring this question involves defining or mapping the spheres of knowledge that Galen recognised and defining a domain of enquiry that falls between the study of education and of medical (or psychological) therapy in its more familiar forms at this time. Also, like other contributions to this volume, this chapter shows how Galen's own enquiries are carried forward, in large measure, by his responses, whether explicit or implicit, to key authors in his 'world of knowledge', above all, on this topic, Hippocrates and the Plato of the *Timaeus*.⁶ The discussion thus shows how the original or innovative features of Galen's thought (in this case, his definition of a therapy of the intellect) constitute at the same time a mode of response to his intellectual tradition.

⁴ *The Affections and Errors of the Soul* (two short essays, *Aff.Dig.* and *Pecc.Dig.*), English translation in Singer 1997: 150–201. On Galen's approach, see Hankinson 1993, esp. 198–204.

⁵ On the epistemological (or methodological) preconditions of knowledge, see Hankinson, ch. 10 below.

⁶ See further, on Galen's responses to Hippocrates, von Staden and Manetti (chs. 6–7 above), and to Plato, Chiaradonna (ch. 11 below).

THE INTELLECTUAL FACULTIES AND THE INTELLECT DEFINED

I begin with a definition of the intellectual faculties and of those who embody them in Galen. The question needs to be set out with precision so that we are not distracted by broader problems that are often discussed, such as madness conceived as disturbance of the intelligence,⁷ or the properties of the soul in general.⁸ Our attention must be centred on the intellectual faculties, namely memory and intelligence.

This definition rests essentially on the treatise entitled Ὅτι ταῖς τοῦ σώματος κράσεσιν αἱ τῆς ψυχῆς δυνάμεις ἑπονται. This title should not be translated as *That the Habits of the Soul Follow the Mixtures of the Body* (*Quod Animi Mores*), but as *That the Faculties of the Soul Follow the Mixtures of the Body* (*Quod Animi Facultates*), which is how I shall refer to this work here (*QAF*). It is to be regretted that the former (traditional) translation reflects a bad Greek text, τὰ τῆς ψυχῆς ἦθη, which is still to be found in Kühn's edition. It has been known since 1880, thanks to I. Müller, that the title in the manuscript tradition is αἱ τῆς ψυχῆς δυνάμεις, a title that reflects perfectly the contents of the treatise. Yet the traditional title persists, at least in the Latin version *Quod Animi Mores* (with the standard abbreviation *QAM*), giving the impression that Galen was interested above all in character. What would become of the intellectual faculties from this standpoint? One would have to conclude that they were secondary in Galen's mind, which is a clear misapprehension.

The traditional translation is all the more damaging because, from the very beginning of the treatise, Galen moves to a definition of what should be understood by δύναιμις. He censures the bad definition offered by many philosophers, on the grounds that they establish a connection that is too weak between faculty (δύναιμις) and essence (οὐσία). Galen uses a metaphor to challenge their belief that δυνάμεις reside in οὐσία just as we live in a house. There are, according to Galen, in an essence (οὐσία) as many faculties (δυνάμεις) as there are types of action (ἐνέργεια). The reason for this is that every action producing a specific effect presupposes a cause that produces that action, and this cause is none other than the faculty producing the effect, namely the δύναιμις. To clarify this definition, Galen, significantly, takes an example from the field of medicinal plants. (Clearly we are dealing with something other than habits.) The aloe can carry out several actions on the body: it can purge, strengthen the stomach, coagulate

⁷ See further Pigeaud 1981, esp. ch. 1.

⁸ On Galen's psychology, see Hankinson 1991c and 2006, Tieleman 2003b and Donini 2008.

bloody wounds, heal superficial sores, dry damp eyes. For each of these actions there is a corresponding faculty:⁹ a purging faculty, a coagulating faculty, a healing faculty and a drying faculty. These faculties define the essence, the οὐσία, of the aloe.

It is an audacious move on Galen's part to use this preliminary analysis of the faculties of the aloe as a point of comparison for the analysis of the properties of the soul:

In the same way, supposing we say 'the rational soul situated in the brain has sensation through the organs of the senses, can also itself remember what has been perceived, and can see what follows and what is in contradiction between things, and their analysis and synthesis' (δύναται δὲ καὶ μεμνήσθαι [διὰ] τῶν αἰσθητῶν αὐτὴ καθ' ἑαυτὴν ἀκολουθίαν τε καὶ μάχην ἐν τοῖς πράγμασιν ὁρᾶν ἀνάλυσιν τε καὶ σύνθεσιν). This statement means exactly the same as 'the rational soul has several faculties, sensation, memory, intelligence and each of the other faculties' (ἡ λογιστικὴ ψυχὴ δυνάμεις ἔχει πλείους, αἴσθησιν καὶ μνήμην καὶ σύνθεσιν ἐκάστην τε <τῶν> ἄλλων). Since we do not only say that the soul can perceive but also that, in each category of perception, it can see, hear, smell, taste and touch, then we are saying once again that it has faculties for seeing, hearing, smelling, tasting and touching.¹⁰

This first move clearly concerns the faculties not of the entire soul but only of the rational part, which resides in the brain (ἡ ἐν ἐγκεφάλῳ καθιδρυμένη λογιστικὴ ψυχὴ). It is well known that Galen adopted Plato's tripartite soul. In addition to the rational soul, he distinguishes the spirited soul, located in the heart, and the appetitive soul, located in the liver. These three souls have numerous faculties that do not overlap and are placed in a hierarchical relationship. Let us focus on the rational soul, which sits at the top of the hierarchy, since it is within this soul that the intellectual faculties are to be found. According to the text just cited, the intellectual faculties constitute two of the three principal faculties of the rational soul, namely memory and intelligence (the third faculty being sensation). The first two faculties form a pair identified in the treatise by the terms μνήμη (memory) and σύνεσις (intelligence).¹¹

In this combination, one faculty is simple both in the term that identifies it and in the action that it performs, while the other is more complex both in its designation and in its actions. Memory is regularly designated by the

⁹ 'Property' is a more natural term in English, when applied to drugs, but the same term is used here to translate the Greek δύναμις, which is applied to both intellectual and pharmacological qualities.

¹⁰ *QAF* ch. 2, ed. Müller SM II.34.16–35.3 (IV.770–1 Kühn).

¹¹ This pairing is found four times with notable consistency. In addition to ch. 2 (two occurrences), see SM II.39.16 (IV.777.4 Kühn) and 41.19 (IV. 779.17 Kühn). Elsewhere, the pairing of these two terms appears only once in Galen's works, in *Loc.Aff.*, VIII.164.16–17 Kühn.

single term μνήμη (though there are, of course, synonyms), and the faculty is defined simply as the automatic recollection of what has been perceived. Conversely, there are numerous synonyms for intelligence, which operates in several modes. A passage in Galen's commentary on the Hippocratic treatise *The Doctor's Surgery* (I.3, IV.649–57 Kühn) is instructive here. At the beginning of the treatise, Hippocrates recommends making observations with all the organs of sense (sight, touch, hearing, smell, tongue), adding under the same heading thought or intelligence, designated by the term γνώμη. Commenting at length on this famous passage, Galen first observes that the word γνώμη is a synonym of διάνοια,¹² and then adds three other synonyms to designate thought or intelligence, namely νοῦς, φρήν and λόγος. He does not cite in this list the term σύνεσις, although this is the only term that he uses in *QAF* to denote the faculty of the intellect. There is thus a stunning divergence between the two texts.¹³

Nevertheless, these two texts need to be reconciled as far as the diverse actions of thought are concerned. In *QAF* (text to n. 11 above), the faculty designated by σύνεσις corresponds to several activities that are explained as follows: the faculty 'can see what follows and what is in contradiction between things, and their analysis and synthesis'. These terms are very close to those Galen uses in the *Commentary on the Doctor's Surgery* to explain the activities of the intellect, which is designated this time by λόγος.¹⁴ After noting that philosophers qualify this λόγος with ἐνδιάθετος ('interior') to distinguish it from speech (another sense of λόγος), Galen specifies its activities in these terms: 'for those who distinguish through reason what follows and what is in contradiction, there is division, synthesis, analysis and demonstration'.¹⁵ What the two passages have in common is, first, the property of distinguishing what follows and what is in contradiction, and then the faculty of analysis and synthesis. The additional element in the second passage is demonstration (ἀπόδειξις).

These then are the activities that correspond to intelligence. We need to add an activity not mentioned in the two texts cited above, but found in the treatise *On Natural Faculties*. Galen describes in detail what is not innate, according to them: '[According to the atomists] from the very beginning, in the soul there is no innate understanding of what follows or what is in contradiction; of division, of synthesis, of justice, of injustice, of what is

¹² Galen returns to this passage at the end of the commentary to say that this use of γνώμη in the sense of 'thought' or 'intelligence' (and not 'judgement') is attested in ancient authors. He lists among others Critias, Antiphon and Plato.

¹³ The list of synonyms in this passage is probably incomplete: another possibility is νόησις.

¹⁴ It is important to remember that it is this term λόγος, whose corresponding adjectival form λογικός is used to qualify that part of the soul named λογική ψυχή (rational soul).

¹⁵ Galen, *Hipp. Off. Med.* XVIIIb.650.2–5 Kühn.

good and of what is shameful'. This list begins with intellectual notions mentioned in the preceding texts, and adds moral notions. Distinguishing the just from the unjust and the good from the shameful is also an action of the intellectual faculty.¹⁶ These are the various intellectual and moral activities which define the faculty known as intelligence. It is clear that the activities of intelligence are more diverse than that of memory.

This, then, is Galen's definition of the intellectual faculties. How now to define intellectuals? We can make sense of Galen's definition by noting the last faculty of Plato's rational soul referred to by Galen. Let us return to the key text, *QAF*. Galen mentions just after the list of faculties of the rational soul cited earlier (text to n. 11 above) 'the appetitive faculty' (τὴν ἐπιθυμητικὴν δύναμιν). I must emphasise what is surprising in Galen's choice of expression. Galen normally uses this expression to describe the part of the soul that resides in the liver and is characterised by appetites.¹⁷ To justify this usage with reference to the rational soul, Galen makes a distinction between what we call the general meaning (κοινῶς in Greek) and the specific meaning (ιδίως in Greek). Strictly speaking, the adjective ἐπιθυμητικός qualifies the appetitive soul but in a general sense it can also designate a faculty of another part of the soul. What are the desires or appetites of the rational soul? 'The part of the soul which we normally call 'rational' (λογιστικόν) has desire, taking the word in a general sense (ἐπιθυμητικὸν οὖν ἔστι κατὰ τὸ κοινὸν τῆς ἐπιθυμίας σημαίνον), for truth, knowledge, study, understanding, memory and, in a word, all that is good'.¹⁸ This is a good definition of the aspirations of the intellectual in the Platonic, and also the Galenic, sense of the term. The intellectual is the person who aspires to truth through the mediation of intellectual disciplines and study with the help of intelligence and memory.¹⁹ This positive definition goes hand in hand with a negative one, that is, the aspirations that an intellectual must *not* have, namely those that characterise the two other parts of the soul, the spirited and the appetitive parts.²⁰

So much for the negative and positive definitions of the intellectual that Galen has taken from Plato. Thus, when Marsilio Ficino in the Renaissance

¹⁶ Galen *Nat.Fac.*, ed. Helmreich, *SM* III.121.11–14 (II.28.12–15 Kühn).

¹⁷ See e.g. *QAF* ch. 9, ed. Müller (*SM* II. 64.6–7, IV.804–5 Kühn).

¹⁸ *QAF* ch. 2, ed. Müller, *SM* II.35.16–21 (IV.772.1–6 Kühn).

¹⁹ See e.g. *Pl. R.* 485d–487a, 535b–535e; for the idea that all three parts of the soul have their characteristic modes of desire and pleasure, see *R.* 580e–581e.

²⁰ The person in whom the rational part is dominant is incapable of experiencing the desires of the spirited part, that is, for freedom, victory, power, public status and honour, or the desires of the 'appetitive part' (in the narrow sense), that is, for sex, food and drink. This, in effect, is what Galen says in this passage: 'Nor is the rational part capable of desiring sex, food or indeed victory, power, reputation or honour.' *QAF* ch. 2, ed. Müller, *SM* II.36.3–6 (Kühn IV.772.12–14).

wrote the first book of his *De Triplici Vita* for 'those who devote themselves to the love of letters', he is thinking in the same categories as Galen, for he too describes them, in the wake of Plato, as those who are desirous of the truth (*homines veritatis cupidi*, I.26).

INCLUSION IN THE MEDICAL SPHERE?

Having defined what Galen means by intellectual faculties and by those who devote themselves to them, we must now ask how far these intellectual faculties are related to medicine. *QAF* will remain the key text for this topic. Behind the generalised question whether the faculties of the soul depend on the mixtures of the body lies the more specific question whether the faculties of the soul, including intellectual faculties, fall into the sphere of medicine or not. This is the issue at stake for the present discussion. If the intellectual faculties (intelligence and memory) are susceptible to variation according to the state of the body and according to external factors which affect the state of the body (that is to say, way of life or environment), this will establish that these faculties do fall within the domain of medicine. In so far as medicine can produce change in the state of the body, it can also produce change in the state of the intellectual faculties. In Galen's demonstration, we will focus only on what is relevant to the intellectual faculties. Just how far do they change along with the humoral mixtures of the body?

The faculties of the rational soul change with the state of the body no less than the faculties of the two other parts of the soul. For Galen, there is no natural difference in the relationship of these three souls with the body, in that all three are situated in a specific part of the body, one in the brain, another in the heart and the third in the liver.²¹ Although they differ in their place in the psychic hierarchy, they do not differ in this respect. Galen sets aside from the start the important question of the immortality of the rational soul. He leaves the question open because he considers that it is not useful for medicine, or indeed for ethical and political philosophy. It is only relevant to theoretical philosophy and even in that context the arguments do not yield certainty.²²

Galen, even if he cannot state the cause, maintains that modifications in the humoral mixture of the body, and particularly of the organ in which the rational soul is situated, produce disturbance in these faculties. This

²¹ On embodied psychology in Galen, see further Hankinson 1991c and Tieleman 2003b.

²² See e.g. *PHP* IX.9.1.7–9, ed. De Lacy (Kühn V.793–4), *Prop.Plac.* 7.1–2, 76.25–78.10, ed. Nutton. See further Hankinson 2006 and Donini 2008.

disturbance arises from an excess of the fundamental qualities: hot, cold, dry and wet. Galen develops this idea at length, beginning with the excesses of hot and of cold. Among his examples some are directly concerned with the intellectual faculties. The excess of heat caused by the amassing of yellow bile in the brain (this humour is known to be the hottest) induces disturbance of the intelligence (παράφροσύνη). Conversely, the excess of cold caused by an excess of phlegm in the brain (this humour is known to be the coldest in the body) induces failures of memory and intelligence (μνήμης καὶ συνέσεως βλάβαις). So change to the mixtures of the brain towards an excess of either heat or cold produces contrasting effects on the intellectual faculties, either delirious excitement or the numbing of intelligence and memory.

It is quite remarkable that this explanation is close to what we find offered by the Hippocratic author of *The Sacred Disease*. This author explained disturbance of the intelligence by changes to the humoral mixtures of the brain brought about by excesses of the fundamental qualities. Furthermore, he contrasted the effects produced on the intelligence by an excess of bile or of phlegm: excess of bile brought about an agitated state of madness and an excess of phlegm a calm madness. Finally, he explained memory loss by an excess of phlegm that chills and constricts the brain: 'When the brain is chilled and constricted contrary to its normal state (ψυχομένου τοῦ ἐγκεφάλου καὶ ξυνισταμένου παρὰ τὸ ἔθος) through the action of phlegm (ὑπὸ τοῦ φλέγματος), there is also memory loss (καὶ ἐπιλήθεται).'²³ Despite these clear similarities in physiology, Galen does not refer to this treatise, probably because he does not consider it authentic.

This explanation for memory loss (that it is brought about by the coldness of phlegm) was set to continue in medicine after Galen. It is not accidental that, in the post-Galenic theory of the four mixtures or temperaments, those in whom phlegm was dominant are referred to as 'forgetful' (ἀμνήμονες)²⁴ and in Marsilio Ficino in the Renaissance, forgetfulness is explained in the same physiological way (*De Triplici Vita* I.25): 'Sometimes for those who are devoted to study, whether because they read or write vigorously with their heads bent down, or because they become torpid through excessive rest, it can happen that a certain thicker form of phlegm accompanied by a black bile that is too cold takes over the head and makes them bewildered and forgetful.' Even if, for Marsilio Ficino, excessively cold black bile comes to reinforce the action of the phlegm, it is

²³ Hippocrates, *On the Sacred Disease* 15 (28.4–7 ed. Jouanna).

²⁴ See e.g. *On the Constitution of the Universe and of Man* I.304.13 (ed. Ideler).

indeed the cold of the phlegm which is the principal cause of memory loss, since the remedies he goes on to recommend are designed to counteract phlegm.

Thus it is, to return to Galen, that excessive cold, like excessive heat, caused by the flux of humours in the body and particularly in the brain, modifies the intellectual faculties. Galen next asks whether excesses of dry and of wet have similar effects. The reply is clearly affirmative, for he says that there are numerous proofs of this to be found in remedies and in one's daily regime. But rather than giving examples straightaway as he had done for the excesses of heat and cold, Galen searches in his reading of the great philosophers and doctors of the past (Plato, Aristotle and Hippocrates) for evidence to support his theory. He cites several passages in Plato's *Timaeus* and in Hippocrates' *Airs, Waters, Places*. Without going into the details of his argument so as to stay focused on the intellectual faculties, we can nevertheless bring out the main features of Galen's reading of Plato and Hippocrates.

For Galen's reading of the *Timaeus*, the key point is that the excess of humidity in the body disturbs both intelligence and memory. On the one hand, in the infant, humidity leads the soul to forget (εἰς λήθην) what it knew before it was tied to the body.²⁵ On the other, in the adult, abundant fluxes of humours mingle as they circle round the soul, producing illnesses in the three parts of the soul. In particular, in the rational part of the soul, they produce memory loss and learning difficulties (λήθης ἄμα καὶ δυσμαθείας).²⁶ Plato's analysis shows that an excess of humidity is as damaging to the intellectual faculties as an excess of heat or cold. However, from this perspective, an excess of dryness does not appear to be prejudicial to health. Several philosophers, including Heraclitus especially, actually believe that dryness renders the soul more intelligent.²⁷ Others will say that it is the balance of the humoral mixture (τὴν συμμετρίαν τῆς κράσεως), and not dryness, that makes the soul more intelligent (συνετωτέραν). This seems to be the view Galen takes, though he does not say so in so many words.²⁸

As for Galen's reading of Hippocrates, we must note that he interprets the psychology of the author of *Airs, Waters, Places* on the basis of the

²⁵ *QAF* ch. 4, ed. Müller, *SM* II.42.2–44.8 (780–2 Kühn), esp. 44.9–11 (780.7–9 Kühn), which cites Pl. *Ti.* 43a, 43b, 44a–b.

²⁶ *QAF* ch. 6, ed. Müller *SM* II.49.16–50.2 (Kühn IV.789.6–14). See Pl. *Ti.* 86e–87a, cited by Galen.

²⁷ *QAF* ch. 5, ed. Müller *SM* II.47.9–16 (Kühn IV.786.8–14), citing Heraclitus, DK fr. B 118.

²⁸ *QAF* ch. 5, ed. Müller *SM* II.47.4–9 (Kühn IV.786.3–8).

Platonic model of the tripartite soul. He also insists that the variations of the soul brought about by the climate and the soil do not only concern the habits belonging to the two lower parts of the Platonic soul, but also the intellectual faculties that depend on the rational soul. This, then, is what Galen says at the end of all these quotations: ‘Hippocrates, in proving throughout his work *On Waters and Seasons* that the faculties of the soul follow the humoral mixtures of the body – not only the faculties of the spirited part and the appetitive part but also those of the rational part of the soul – is the witness most worthy of everyone’s confidence.’²⁹

Galen does not only take Hippocrates as a witness. He also praises his arguments. Following in the Hippocratic tradition, but with a model of the world that owes more to Aristotle than to Hippocrates, Galen asserts that location has an influence on the intellectual faculties and not only on behaviour. According to Galen, men who live in temperate zones in the middle are superior to those who live in the north or the south: ‘Who does not know that men who live between those two, those who live in a well-tempered land, are better than those other men as far as concerns their body, the habits of their souls, their intelligence and their reflection?’³⁰ The detail of this formulation is significant. In the expression τὰ τῆς ψυχῆς ῥῆθη, ‘the habits of their souls’, Galen gathers in a single expression what corresponds to both the spirited and appetitive souls. On the other hand, with the terms σύνεσις and φρόνησις, he identifies what corresponds to a single part of the soul, that is to say the intellect. There is a strong emphasis on the idea of the modification of the intellectual faculties. They are presented as correlated with a land that is well-tempered, which brings about a good humoral mixture for both the body and the soul.

It now becomes clear that the traditional title of the treatise *Quod Animi Mores* misdescribes the essential project of the treatise, which bears not only on the two inferior parts of the soul, but also, and especially, on the rational part. Beyond any doubt, this is the most daring aspect of Galen’s thesis. This leads him, moreover, into conflict with Platonic philosophers who wish to separate thought from the bodily state at least when the body is in good health. Galen rejects their views and charges them with misunderstanding Plato.³¹

²⁹ *QAF* ch. 9, ed. Müller *SM* II 64.3–8 (IV.804.15–805.1 Kühn). On Galen’s attribution of the Platonic tripartite psyche to Hippocrates, see Tieleman 1996a: xxi–v, and on his use of the evidence of Hippocrates in *QAF*, Lloyd–1988: 29–31.

³⁰ *QAF* ch. 9, ed. Müller *SM* II 64.16–19 (IV.805.8–11 Kühn).

³¹ *QAF* ch. 3, ed. Müller *SM* II.37.26–38.18 (IV.775 Kühn).

THE BENEFITS OF REGIMEN

Since, according to Galen, the state of mind is linked with the humoral mixture of the body (whether in health or sickness), and since the humoral mixture of the body depends partly at least on regime and environment, the intellectual faculties of thought and memory relate to medicine. This inference is very clearly drawn by Galen in the same treatise on the faculties of the soul. Here is the main relevant passage:

Those who are angry at the thought that food can make men more sound of mind or more unrestrained, more or less self-controlled, bold or cowardly, civilised and gentle or full of strife and quarrelsome, should come to wiser counsels and come to me to learn what they should eat and what they should drink. They will benefit greatly as far as ethical philosophy is concerned, *and in addition as far as the faculties of the rational soul are concerned they will make progress towards virtue by improving their intelligence and memory* (πρὸς ταύτην κατὰ τὰς τοῦ λογιστικοῦ δυνάμεις ἐπιδώσουσιν εἰς ἀρετὴν συνετώτεροι καὶ μνημονικώτεροι γενόμενοι). In fact, I shall teach them, in addition to their lessons on food and drink, about the winds and the mixtures of the surrounding air and which regions it is right to seek out and which to avoid.³²

Galen declares loftily in this passage that he has a knowledge of diet that can be useful not only for ethical philosophy, that is to say, for improving the psychic habits that are generally seen as related to the two lower parts of the soul. He can also help the faculties of the rational soul to make progress by producing an improved intelligence and memory. Here again we find the two adjectives that correspond to the two intellectual faculties, intelligence (σύνεσις) and memory (μνήμη). In addition to this knowledge of diet, the doctor also has knowledge of the influence of external factors on the soul (winds, mixtures of surrounding air, soil), and this will facilitate choice of the places one should live in or avoid if one wishes to exercise one's intellectual faculties to the full. The lands to avoid are those which are too hot and too cold. As Galen says at the end of his treatise, among the Scythians there was only ever one philosopher. Much better to live in a temperate country such as Athens where fools are rare.³³

Galen is not the first doctor to assert that intelligence can be improved by dietary regime. In the Hippocratic corpus, the author of the treatise appropriately entitled *Regimen* explains at length in 1.35 his theory of intelligence based on the proportion of the mixture of fire and water that

³² *QAF* ch. 9, ed. Müller *SM* II 67.2–16 (IV.807.17–808.12 Kühn).

³³ *QAF* ch. 11, ed. Müller *SM* II.79.21–4 (IV.822 Kühn).

circulates round the soul. He then concludes as follows (I.36): 'Thus on the subject of intelligence or its absence in the soul (περὶ μὲν οὖν φρονίμου καὶ ἄφρονος ψυχῆς), it is this mixture which is the cause, as I have written. And it is possible that a person's regime makes it better or worse.'³⁴ The similarity is striking. In the Hippocratic treatise, long before Galen, we can find the claim by a doctor to be able to modify the intelligence by a suitable regime. Medicine can thus improve the quality of intellectual activity. One can only be struck also by Galen's silence about this passage: this indicates that he did not consider the first book of *Regimen* authentic.³⁵

In *QAF* Galen envisages only food and drink as being capable of improving the performance of the intellectual faculties. He has nothing to say about the other important element of regimen, namely exercise. This gap is filled by other treatises where Galen says that exercising the body can have an impact on the faculties of the soul, notably the intellectual faculties.

In the treatise *Exercise with the Small Ball*, Galen makes in connection with this activity general remarks about exercise that show the doctor's concern with the effect on the soul, even when discussing how to exercise the body. According to Galen, the best exercises are those that are not limited to setting the body in motion but are also capable of bringing joy to the soul. The movement of the soul is as important as that of the body, and indeed more so, since the soul is in charge of the body. It is certainly true in these general reflections that Galen deals with the soul in general, without reference to its different parts, but when Galen deals with the advantages of the small ball in comparison with other exercises, he sets out more precisely the effects on the soul. He claims that this form of exercise is not purely designed for the body but that it also trains one's eyesight (ὄψιν γυμνάζει) and furthermore sharpens one's mind because one has to concentrate on not dropping the ball and on stopping others from taking it (τὴν γνώμην θήγει τῇ φροντίδι τοῦ τε μὴ καταβαλεῖν καὶ

³⁴ Hippocrates *Regimen* 1.36 ed. Joly (CMG 156.19–21 = Littré VI 552.17–22). What is needed for intelligence is balance in the mixture of elements. The author goes on, 'When fire predominates in the soul's movements, it is surely possible to add to the water, and when water predominates in the blend, it is possible to increase fire. As a result of these factors, souls become more or less intelligent.'

³⁵ Furthermore, the treatise *Regimen* continues (I.36) with a line of thought that Galen could not support. According to the treatise, some qualities of the soul, such as irascibility or indolence, cunning or simplicity, malevolence or benevolence, cannot be modified by regime because they depend not on the mixture of fire and water, of which the soul is composed, but on the nature of the channels by which the soul makes its way. What depends on character, and not on the intellectual faculties, cannot be modified by regime. Such a position is unacceptable to Galen. It amounts to saying that the rational part of the soul could be modified by regime, but the two inferior parts could not. This would destroy the foundations of ethical philosophy.

τοῦ διακωλύσαι). In this connection, Galen gives a very precise account of the effects of concentration on someone: 'In itself concentrating has a thinning effect, but when it is combined with exercise and a spirit of competition and ends up bringing pleasure, then it brings the greatest benefits in health to the body and the greatest benefits in intelligence to the soul.'³⁶ The Greek word for intelligence here (σύνεσις) is the same as the one used in *QAF*, ch. 2 (text to n. 10 above).

So there is a type of exercise for the body, which is also useful for the intelligence. But there are also exercises for the soul. Galen in fact on one occasion uses the remarkable expression 'gymnastic exercises for the soul' (τὰ τῆς ψυχῆς γυμνάσια) in his treatise *On Habits*. Here he shows the importance of regular habit, not only in dietary regime but also in exercise. Habitual exercise, that is, a training programme, strengthens both body and soul. But while, in *Exercise with the Small Ball*, Galen envisages a form of exercise for the body that could improve the intellectual faculties, in the treatise *On Habits* he sets up parallel exercises for body and soul. What are the exercises of the soul and what benefits do they bring? Here is the key passage. Galen has just said that training strengthens the relevant parts of the body.

The same reasoning holds for the parts of the soul. First of all we practise grammar while we are still children, and then we go to teachers of rhetoric, geometry, arithmetic and logic. As we have in the ruling part of the soul faculties directed at all the arts, there needs to be another faculty, according to which we know what follows and what is contradictory, and a further faculty with the help of which we remember. We become more intelligent (συνετώτεροι) thanks to the first and endowed with a better memory (μνημονευτικώτεροι) thanks to the second. All the faculties have the natural quality of being increased and strengthened with exercise and being damaged by inactivity.³⁷

In this passage the exercises for the soul only bear on the ruling part of the soul – this point is crucial – and not even all the faculties of this ruling part, but only the intellectual faculties of intelligence and memory. These two faculties are not only innate but can also be improved with exercise or damaged by a lack of training. An intellectual thus cannot function without constant training of the intellectual faculties.³⁸ With this assertion, Galen adopts the position of Plato's *Timaeus*, which he goes on to cite at length.³⁹

³⁶ Galen *Parv.Pil.* ch. 3, ed. Marquardt, *SM I*. 97.11–14 (V.904.8–11 Kühn).

³⁷ *Cons.* ch. 4, ed. Müller, *SM II*.25.12–24.

³⁸ To convey the idea of training, Greek uses both the family of words based on γυμνάζειν and also that based on ὁσκεῖν. Research is needed to determine differences in usage between the two families.

³⁹ Galen refers to Pl. *Ti.* 89c–90a. However, Plato does not distinguish as clearly as Galen the two intellectual faculties of intelligence and memory. On Pl. *Ti.* 88c–90d, see Gill 2000: 68–9, Johansen 2004: 155–7.

In the period between Plato and Galen, another doctor considered the exercise of intelligence and memory important. This is Erasistratus (of the Hellenistic period), who is also cited in *On Habits*. Here is Erasistratus on the importance of habitual exercise of the memory and intelligence.

Consider the situation with verses of epic or iambic poets that we know. If someone asks us to recite two or three verses in the middle, and we are not used to doing such a thing, we cannot do it with ease. But if we recite the whole passage in sequence, once we get to these same verses we will recite them straightaway and with facility. On the other hand, if we are used also to the first exercise, we will perform it with ease. In a similar way, those who are not used to learning learn little, and slowly, whereas when they become more used to it, they learn much more, and much more easily. An analogous phenomenon also applies to research. Those who are not used to research are blinded and grope in the dark during the first movements of thought, and quickly turn their back on research. They have cramp in their thoughts and are at the limits of their strength every bit as much as those who take up running without being used to it. On the other hand, the person who is used to research, delving everywhere and using his intelligence to seek things out, moves on to all sorts of places, does not turn his back on research and does not take a break from research either for part of a day or for his whole life. And by transporting his intelligence towards other thoughts, which are not, however, alien to his object of research, he moves on until he comes to the goal he had set himself.⁴⁰

Of all the texts cited here, it is this passage by Erasistratus the doctor which comes closest to giving the modern picture of the intellectual as someone whose life is focused on research.

To sum up, ancient medicine from the Hippocratic corpus to Galen, by way of Plato and Erasistratus, asserted the possibility of improving the performance of the intellectual faculties of intelligence and memory with the help of one's dietary regime or exercise, or indeed by one's choice of place of residence.

However, what is remarkable in Galen, as sometimes in Plato,⁴¹ is the importance placed in all his works on the necessity of *training* intellectuals, that is, those who seek out the truth by the correct method, namely demonstration. He never ceases to denounce those who have not trained themselves in intellectual exercises. His use of the term ἀγύμναστος ('untrained') is applied to the intellectual field with particular frequency. For example, in *On the Errors of the Soul*, where psychic error (ἁμάρτημα), in the full sense, is defined as a bad judgement by the rational part of the soul, Galen denounces 'those who lack training (ἀγύμναστοι) not only in the methods of demonstration but also in the other disciplines by which

⁴⁰ Galen *Cons.* ch. 1, ed. Marquardt, *SM* I.17.1–22.

⁴¹ See e.g. *Pl. R.* 521c–540c.

the soul is made sharper (ἐν οἷς ἡ ψυχὴ θήγεται), namely, geometry, arithmetic, calculus, architecture, astronomy'.⁴² It is remarkable that the disciplines which prepare one for the method of demonstration are said to be capable of making the soul sharper. This is analogous to the expression Galen used, as we have seen, in the treatise *On the Small Ball*, namely that this exercise 'sharpens the intelligence' (τὴν γνώμην θήγει).⁴³ There can be no doubt, from comparison of the two passages, that in this passage the general term ψυχὴ ('soul') designates in fact the rational part of the soul.

This metaphor of disciplines 'sharpening' the intelligence is found a third time in Galen's *oeuvre*, at the beginning of the treatise *On the Properties of Foodstuffs*, when Galen is discussing the method to use when approaching this subject. There are two possible sources for demonstration, either the senses (αἴσθησις) or intelligence (νόησις). Underlining how difficult the route of intelligence is, Galen chooses the route of the senses on this basis: 'Since judgements based on reason are not equally easy for everybody, and since one must be intelligent by nature and trained during childhood in the disciplines that sharpen one's reason (τοῖς θήγουσι μαθήμασι τὸν λογισμὸν), it is best to begin with experience.'⁴⁴ In this, as in the previous passage, Galen asserts that working in disciplines sharpens the intellectual faculties. The verbal image is always the same (θήγειν, 'sharpen'). The direct objects are synonyms (γνώμην, ψυχὴν, λογισμὸν). Working in disciplines can only achieve this effect on the intelligence as a result of training. The perfect infinitive γεγυμνάσθαι ('to have trained') used here is the antonym of ἀγύμναστοι in the previous passage. However, the present passage offers an additional piece of information: training, essential as it is to sharpen the intellectual faculties, is not sufficient. Natural gifts are also needed: one must be intelligent by nature.

These two conditions are intimately linked by Galen in his presentation of people whose company he recommends to those who wish to avoid the errors of the soul. These are 'people most truthful, intelligent by nature and trained in rational study (μετὰ τῶν ἀληθεστάτων ἀνδρῶν καὶ φύσει συνετῶν καὶ γεγυμνασμένων ἐν θεωρίαις λογικαῖς)'.⁴⁵ There, definitively, is Galen's definition of true intellectuals, or rather the true definition of the intellectual.

In conclusion, to answer the question set at the beginning of this chapter, there is certainly not a branch of medicine for intellectuals in the sense intended by Marsilio Ficino. There is no treatise dedicated to

⁴² Galen *Pecc.Dig.* ch. 2, ed. Marquardt, *SM* I.49.24–50.1 (V.64.7–10 Kühn).

⁴³ See text to n. 36 above. ⁴⁴ Galen *Alim. Fac.* I.1 (VI.454.15–455.1 Kühn, 202 *CMG*).

⁴⁵ Galen *Pecc.Dig.* ch. 1, ed. Marquardt, *SM* I.47.16–18 (V.61.7–9 Kühn).

curing the evils brought about by the studious life of intellectuals, though Galen accorded more importance than most doctors to therapy for loss of memory.⁴⁶ However, there is a medical programme for the intellectual faculties in Galen. It rests on a precise definition of the intellectual faculties and deep reflection on what would make this programme possible. It is possible to improve the two intellectual faculties by a regimen of food and drink, and by the choice of place of residence. In practice, however, it is training that is especially important, either through the choice of physical exercises that sharpen the intelligence – such as exercise with the small ball – or through intellectual exercises themselves. These might be preliminary studies of disciplines that sharpen the intelligence, or training in the method of demonstration. Certainly such exercises cannot replace natural intelligence. This natural quality of intelligence forms the indispensable basis for selecting an elite. However, the natural gifts would be nothing without training. Intellectuals are thus high-level athletes, undoubtedly gifted people who improve their performance by training in rational exercises in order to reach the truth. For Galen these intellectuals are not only men who *desire* the truth (*homines veritatis cupidi*); they are men who most of all *achieve* the truth (τῶν ἀληθεστᾶτων ἀνδρῶν).

⁴⁶ Galen *Loc.Aff.* III. 5 (VIII 147.14 Kühn). He speaks at length of a case of amnesia that he cured when young even though he had had no teaching on this subject and had read nothing on therapy for memory loss in earlier literature.

*Galen on the limitations of knowledge**

R. J. Hankinson

INTRODUCTION

Galen was no sceptic. On several occasions he refers derisively to 'boorish Pyrrhonists',¹ suggesting that scepticism, at least in its more extreme forms, is a matter of a lack of culture, an intellectual infantile disorder. Time and again, he stresses that, if only the inquirer is blessed with diligence, honesty and intelligence, and armed with the proper logical tools of rational discourse, he can aspire to a genuine understanding of the way in which the physical (or more particularly the physiological) world works. In *Elements According to Hippocrates* (*Hipp.Elem.*),² he argues that the successful medical practitioner needs to know the fundamental elements that make up physical objects, and how they interrelate to one another (although as we shall see, there are some qualifications to this necessity); he affirms that it is demonstrable that monism is false; and even more strikingly affirms that Hippocrates himself (in *Nature of Man*) demonstrated its falsity (*Hipp.Elem.* I.415–16; cf. 416–42). In a similar vein, *On Mixtures* (*Temp.*)³ talks of the importance of understanding the real states of affairs in regard to the internal mixtures of the body and its various properties, phenomenal and causal, and of properly assessing the varying degrees of heat, cold, dryness and moisture of the various parts. Another 'physical' treatise, *On the Natural Faculties* (*Nat.Fac.*),⁴ argues for the reality

* I should like to thank the participants at the Exeter conference for some helpful questions and stimulating discussion.

¹ See e.g. *On the Differences of Pulses* (*Diff.Puls.*) VIII.711; cf. *On Mixtures* (*Temp.*) I.589–90; *Do the Arteries Naturally Contain Blood?* (*Art.Sang.*) IV.727. All references to Galen are keyed to the edition of Kühn 1821–33, except in cases of texts not found in Kühn; where later and better texts exist, I refer to them at the first mention of the treatise in question. *Temp.* (I.509–694 Kühn) is edited in Helmreich 1904; and translated in Singer 1997; *Art.Sang.* is edited and translated in Furley and Wilkie 1984.

² *Hipp.Elem.* appears in Kühn, I.413–508; it has been recently edited with a translation and commentary in De Lacy 1996.

³ Edited in Helmreich 1904; English translation in Singer 1997.

⁴ Kühn II.1–214; also edited in Helmreich 1893; translated in Brock 1916.

of certain fundamental natural capacities (attraction, retention, alteration and expulsion) possessed by distinct parts of animals' bodies in virtue of which they can perform their functions, and against what he stigmatises as the excessively crude materialism of the atomists and their various anti-teleological acolytes. In addition, *On the Function of the Parts of the Body* (UP)⁵ elaborates at great length, and with great confidence, a thorough-going teleological account of animal anatomy and functioning. Moreover, his therapeutic masterpiece *On the Therapeutic Method* (MM)⁶ with equal confidence lays out a general programme of diagnosis and treatment based upon the four-quality physics established in *Hipp.Elem.* Knowledge may be hard to come by, and the best doctor is also a philosopher, or so Galen claims in the treatise of the same name (*Opt.Med.* I.53–63 Kühn);⁷ but, for all that, it is not impossible (although there are many domains in which apodeictic certainty is not to be won, and plausible speculation is the best which can be achieved). Scepticism is unwarranted. Indeed, Galen thinks it both idle and self-refuting. No sceptic really believes his scepticism; the attempt of the sceptically fastidious to reformulate all apparently dogmatic talk in terms of a phenomenal language is stigmatised in *On Diagnosis by Pulses* (*Dig.Puls.*) at VIII.781–3; and any attempt to cast doubt upon the reliability of our basic sensory criteria must be self-stultifying (*On the Best Method of Teaching* (*Opt.Doct.*)⁸ I.40–52).⁹

Yet, as Galen himself tells us, he once came close to succumbing to sceptical despair. The passage is well known (at least to Galenists), but it bears repeating:

So I applied myself to all the best-reputed Stoic and Peripatetic philosophers of the time; but while I learned many pieces of logical theory from them which in the fullness of time I found to be quite useless for establishing proofs, there were very few that they had researched in any useful manner likely to lead them to the goal set before them. I found too that these pieces of logical theory were in conflict with one another, and indeed sometimes opposed to our natural conceptions (*phusikai ennoiai*); and, by God, indeed as far as these teachers were concerned, I might even have fallen into a Pyrrhonian impasse (*aporia*) myself, if I had not clung firmly to the facts of geometry, arithmetic and calculation. (*Lib.Prop.* XIX.39–40: translation after Singer, 1997).

⁵ Kühn III.1–IV.366; also edited in Helmreich 1907–9, and translated by May 1968.

⁶ Or *On the Method of Healing*. Kühn X.1–1021; Books I and II translated with commentary in Hankinson 1991b.

⁷ Translated in Singer 1997; Galen means this perfectly literally, as we shall see.

⁸ Edited in Marquardt 1884, and with Italian translation in Barigazzi 1991.

⁹ For Galen's attitude to, and attempted refutation of, scepticism, see Hankinson 1992a; De Lacy 1991; Hankinson 1997.

The language of conflict is, of course, pointedly Pyrrhonian; but Galen's point is that, initial desperation notwithstanding, these conflicts are not (or at any rate not all of them) undecidable.¹⁰

It is worth noting that the conflicts in question have to do only with logical theory as such, and not with substantive claims about the nature of the world; but, for someone of Galen's predilections, that is serious enough. For he believes, passionately, that it is only by correctly applying the appropriate logical methods that the practical scientist can arrive at the proper explanatory understanding of things. Not that Empiricists, who reject such things (and for suitably Pyrrhonian reasons), cannot, within their self-imposed limitations, become reasonable practitioners (*SI* I.72–3); but for all that their practice is severely (and in some cases fatally) circumscribed: having no account of the internal nature of bodies and their causal structures, they are bound to be at a loss when confronted with a concatenation of signs and symptoms (a 'syndrome') that they have never met before.¹¹

Galen goes on to say that 'I have observed the evidently true *phainomena* in the case of eclipse predictions and the construction of sundials and waterclocks, and everything else that comes under the purview of architecture (*architektonia*);¹² and so I thought that it would be better to employ this type of geometrical proof (*apodeixis*)' (*Lib.Prop.* XIX.40). But what exactly is 'this type of geometrical proof'? How is it proof against Sophistry and confusion? And, crucially, how is it of any help in practical or theoretical medicine? These questions are altogether harder to answer; and will require us to look not only at Galen's conception of the role of logic in understanding, but more generally at his epistemology.

THE NOTION OF PROOF

We need first to examine the notion of proof, or demonstration. The Aristotelian origins of Galen's notion are clear enough, even if he does castigate Peripatetics (along with Stoics and Platonists) for messing logic up and

¹⁰ For the Pyrrhonian language of undecidable conflict, and the suspension of judgement it is supposed to engender, cf. Sextus, *PH* 1.26, 88, etc.; it is also a commonplace of the Empiricists: Galen, *On Sects for Beginners* (*SI*) I.78–9; *SI* is edited in Helmreich 1893, and translated in Frede 1985.

¹¹ At any rate in Galen's view: see *MM* X.169, 210–11; cf. *On Affected Parts* (*Loc.Aff.*) VIII.154–5: the Empiricists could never have simply discovered the cupping-glass by accident.

¹² As Singer (1997: 406, n 37) notes, the sense is broader than that of our 'architecture'; it covers civil engineering, and indeed aspects of engineering in general. Galen's father was an architect in this sense (*On Good and Bad Humours of Foodstuffs* VI.755–6 [*Bon.Mal.Suc.* edited in *CMG* V.4.2]; cf. *Lib.Prop.* XIX.40, *Ord.Lib.Prop.* XIX.59).

getting themselves into sterile difficulties. Galen was deeply familiar with Aristotle's writings on logic and proof, the *Prior* and *Posterior Analytics*: he himself tells us that he wrote (for his own purposes and not for publication) nineteen books of commentary on these texts alone (*Lib. Prop.* XIX.40–1), among his very impressive (and almost entirely lost) logical output.¹³ On the other hand, Galen was an eclectic (or rather a syncretist)¹⁴ in logic as in other matters, and he minimises the differences between Aristotelian and Stoic logic;¹⁵ thus he will also on occasion use the language of proof in the context of Stoic-type argumentative structures (one or other of the five indemonstrables).¹⁶

An Aristotelian demonstration consists of a sound argument in one of the basically valid syllogistic moods (paradigmatically in the first-figure universal affirmative mood *Barbara*), whose premisses are necessary (in some sense), and whose conclusion consequently is also necessary (in what sense of 'necessary' need not detain us). Moreover, the premisses must be immediate – that is, the predicate and subject must be directly linked, and not by way of some intermediate premiss containing some further middle term;¹⁷ and they must be, in some more than merely formal sense, prior to the conclusion derived from them (roughly, they must represent more basic states of affairs of which the state of affairs expressed by the conclusion is a consequence). Clearly, whatever else may be the case, for something to count as a demonstration, more than merely formal (in the sense of syntactic) criteria need to be satisfied; equally clearly, demonstrations merely tease out the consequences inherent in the premisses (as of course do all valid deductive arguments).

Compare that with the Stoic notion of proof,¹⁸ as reported by Sextus (*PH* 2.135; cf. 134–92, *M* 8.300–481): 'proof is, they say, an argument (*logos*) which reveals by deduction a non-evident (*adēlos*) conclusion on the basis of agreed premisses'. So far, this might be thought to mirror the Aristotelian account (at least for some sense of 'non-evident'); but Stoic

¹³ For an assessment of its extent and scope, see Barnes 1991: 54–6.

¹⁴ On the difference between, as well as the relative applicability of, these terms in the case of Galen, see Hankinson 1992b; see also Tieleman 1996a: xvii–xxii.

¹⁵ Excessively and unwarrantedly so in some cases: see Barnes 1991: 56 n. 23; 1993b.

¹⁶ See e.g. *On Semen* (*Sem.*) IV.609–10, where Galen talks of 'making the demonstration directly, by syllogising in two ways, hypothetically and categorically': but the succeeding examples (both 'hypothetical' and 'categorical') are both roughly Stoic in form (*Sem.* is edited and translated with commentary in De Lacy 1992); at *On the Mixtures and Powers of Simple Drugs* (*SMT*) XI.499–501, he formulates the same arguments using Aristotelian and Stoic forms indifferently. For the five indemonstrables, see *PH* 2.157–8.

¹⁷ For the details of this, see Barnes 1994: 94–5; Hankinson 1995a: 109–13.

¹⁸ On which see Brunschwig 1980; Barnes 1980.

logic is evidently a different animal. A crucial function of Stoic *apodeixis* consists in the discovery of facts which are 'non-evident' in a sense stronger than that in which the conclusion of an Aristotelian demonstration makes patent facts only implicitly contained in its premisses. For Stoic proof is closely associated with the idea of the indicative sign (*sēmeion endeiktikon*),¹⁹ which, again according to Sextus (2.101; cf. 104),²⁰ is characterised as 'the antecedent proposition (*axiōma*) of a sound conditional which is revelatory of the conclusion'. In other words, an indicative sign is some proposition P which is such that 'if P then Q' holds; and hence, since P is by hypothesis evident, on the appearance of P we can infer to Q, which is not. We do not need to know in advance that P and Q are associated (by enumeration of instances, induction or whatever), as we do in the case of the Empirically-acceptable commemorative sign: Q, in some sense, follows *directly* (albeit not *formally*) from P.²¹ Thus, in the standard example, the fact of sweating is an indicative sign of the existence of invisible pores in the skin (*PH* 2.142: at least, as Sextus says, on the assumption that moisture cannot penetrate a solid body: this is of course a crucial condition, of a sort which will become relevant later on). Proof, by way of the indicative sign, is not merely a way of systematising and regimenting already acquired knowledge: it is also, as Sextus emphasises, a method of discovery.²²

THE BENEFITS OF LOGICAL THEORY

Galen is strongly committed to the view that knowledge, in the Aristotelian sense of *epistēmē* or scientific understanding, is to be had regarding the

¹⁹ On which see Allen 2001: 170–88; on the relations between the two types of Hellenistic sign-inference, and the patterns of inference allowed by Rationalist and Empiricist doctors, see Hankinson 1995b: ch. 13; and Allen 2001: 89–97.

²⁰ The Stoics are only mentioned explicitly in 2.104, where the definition is said to be of 'sign' rather than 'indicative sign'; at 101, he merely says 'according to them', which presumably looks back to the previous paragraph, the contents of which he ascribes compendiously to 'the Dogmatists'. But these technicalities are of no importance to us; however, see Allen 2001: 109 ff.; Ebert 2005: 54–5.

²¹ It is this fact which allows Sextus (*PH* 2.159–62) ingeniously to convict Stoic proof theory of redundancy, which is in their own eyes a logical sin: an argument 'A, B ⊢ C' is redundant just in case either 'A ⊢ C' is valid or 'B ⊢ C' is valid; but consider the argument-schema: 'if P then Q; P ⊢ Q', the Stoics' 'First Indemonstrable', one of their basic rules of inference: on their own account, 'if P then Q' is true in the appropriately strong sense only if 'the consequent is potentially included in the antecedent' (*PH* 2.112: the doctrine of *emphasis*: see further below); but that amounts to saying that P entails Q, hence 'P ⊢ Q' is valid; and so the original schema is redundant. For an exploration of this, see Barnes 1980.

²² At *On Hippocrates' Prognostic* (*Hipp.Prog.*), *CMG* V.9.2, 373.1–14 (edited by Heeg, in Diels and Heeg 1915), Galen distinguishes *sēmeia* from *tekmēria* on the grounds that latter entail what they signify.

world and its structures. Equally, it is not easily won, and it is all too simple for the unwary and the logically unprepared to fall for the superficially convincing but invalid sophistry of the medical charlatans whom Galen never tires of castigating. This is one reason why the apprentice doctor must not only learn, but also practise in, logical theory;²³ and Galen regularly takes his opponents to task for logical incompetence, seeking to demonstrate the failings of their arguments. A good example is his treatment of Erasistratus' claim that if the veins are emptied of their contents one of two things must happen: either (1) a vacuum is created, or (2) something else is drawn in to fill the space; and since the former is impossible, the latter must occur (*horror vacui* is the main dynamic principle in Erasistratus' physiology). However, as Asclepiades pointed out, albeit not formally (here Galen allows his usual hostility to Asclepiades to be mitigated), there is a third possibility: (3) the veins may simply collapse, since, unlike the reeds and tubes that one uses as siphons (and which do validate Erasistratus' argument), they are non-rigid (*Nat.Fac.* II.75–6). At *ibid.* 106–7, Galen sums up: 'the disjunctive premise used for the purpose of demonstration should in reality be a disjunction not of two but of three disjuncts. So if we make use of it as a two-way disjunction, one of the assumptions of the demonstration will be false; but if we treat it as a three-way disjunction, the argument will not be valid (*aperantos*).' That is, if we assume, with Erasistratus,

(1) Either *a* or *b*,

and then infer *b* from it on the basis of the impossibility of *a*, our argument will be valid (in the modern sense), but inconclusive because of the falsity of (1). Conversely, if we amend (1) to

(1*) Either *a* or *b* or *c*,

we secure the truth of the premiss at the expense of rendering the inference from it invalid.²⁴ The disjunctions requisite to genuine proof will be exhaustive, that is to say that the disjuncts will cover all logical possibilities, which in turn has the consequence of making the disjunction itself a necessary truth; thus we can know for sure that if all but one of

²³ Cf. e.g. *Ord.Lib.Prop.* XIX.52–4; *MM* X.61–2; *On the Doctrines of Hippocrates and Plato (PHP)* V.222–4, etc. (*PHP* is edited with translation and commentary in De Lacy 1978–84). Galen himself divides his treatises into those which are *antilogētikōn kai sophismatōn epilutikōn* and those which are *epistēmōnikōn kai didaskalikōn*: *On the Differences of Fevers (Diff.Feb.)* VII.281 (cf. *On Prognosis from Pulses [Praes.Puls.]* IX.279).

²⁴ This sort of formal treatment is to be found in numerous other places: e.g., at the beginning of *Do the Arteries Naturally Contain Blood? (Art.Sang.)* IV.703–6; *Art.Sang.* is edited and translated in Furlley and Wilkie 1984, who offer a lucid analysis of the logical structure of the argument (258–9); a little further on, the same text reprises the analysis of the *horror vacui* argument (in a slightly different, albeit precisely parallel context): 709–12.

the disjuncts of such a disjunction have been ruled out, whatever remains must be true.²⁵

Gaining the ability to detect and convict the fallacies of others is not the only reason for learning and practising in logic (or more precisely the ‘logical methods’ – methods, that is, of proof, of establishing incontrovertible truths); indeed it is not the most important one. Consider again the brief account of Stoic *apodeixis* offered above. It is, as we saw, supposed to be a means of uncovering hidden, fundamental truths about the world, truths that are not made patent by experience alone. And it is the existence, in Galen’s sanguine view, of such a rational route to certain knowledge that allows the practitioner armed with an arsenal of proof-theory to go beyond the limitations of mere empirical expertise to elaborate a soundly-based explanatory account of physics and physiology. It is those pretensions that now require further investigation.

Empiricists (that is, the medical group known by this term), held that no such route was available; and, echoing (or perhaps prefiguring)²⁶ the philosophical sceptics, they alleged that the existence of undecidable dispute, *diaphōnia anepikritos*, among the Dogmatists amply attested to the unavailability of certain knowledge. Galen reports their views and arguments at length in a variety of texts;²⁷ and he is in some ways sympathetic to the Empiricists’ practice (although he insists that it is not a method properly so-called: *MM* X.31–2, 127). At all events, he insists that in default of the sort of logical training he prescribes, such empirical expertise is the best one can hope to attain.²⁸ Moreover experience is one of the two roads

²⁵ There are numerous similar cases throughout the corpus: cf. e.g. *On Prognosis (Praen.)* XIV.617–18, where the philosopher Eudemus asks Galen how he can be sure that his symptoms will be relieved by the expulsion of the noxious humours, in this case ‘by way of the lower belly’, since there are evidently many different ways for the body to rid itself of waste products (‘vomiting, alvine evacuation, excessive urination, abundant sweats, normal bleeding piles’). Galen replies that the nature of the pulse revealed that the body was fighting to evacuate the humours, and the absence of any of the particular signs associated with the other means of evacuation entailed that it would happen by means of the only one for which there was no particular sign. The gratified philosopher replied: ‘you have made a truly logical exposition of how you reached this prognosis’ (trans. Nutton 1979). The logic is of course Stoic logic; compare Chrysippus’ dialectical dog: *PH* I.69.

²⁶ Whether this sort of language (as well as the language of commemorative sign-theory) is of medical or philosophical provenance is a vexed question (compare Ebert 2005, with Pellegrin 2005); but its resolution need not trouble us.

²⁷ In particular *SI*, and the other two texts translated in Frede 1985: *Outline of Empiricism (Subf.Emp.)* and *On Medical Experience (Med.Exp.)*; *Subf.Emp.* survives only in a fourteenth-century Latin version; it is edited as Fr. 10b of Deichgräber 1930. Apart from a few fragments, *Med.Exp.* is found only in an Arabic translation, edited by Walzer 1944.

²⁸ Cf. e.g. *MM* X.122–3; *On the Powers of Foodstuffs (Alim.Fac.)* VI.454–5 (*Alim.Fac.* is edited by Helmreich in Koch *et al.* 1923; translation in Grant 2000 and Powell 2003).

to genuine knowledge, and no secure knowledge can be won without it.²⁹ But Galen insists that there are, 'as the old philosophers said', two criteria of certainty: truths evident to reason and truths evident to perception (*MM* X.36).³⁰ The mere fact (and he does not deny that it is one) that different theorists have drawn widely divergent conclusions as to the underlying nature of things on the basis of the same evidence does not show, as it does for the Empiricists and Sceptics,³¹ the hopelessly unfounded fragility of such inferences, but rather the incompetence of the vast majority of so-called 'Rationalist' practitioners.

If Galen is sanguine about the prospects for acquiring recondite physical and physiological knowledge, he is by no means uniformly complimentary to the various savants who have sought to do so; and he acknowledges that the disagreements among the theoreticians as to the constitutions of things have indeed fuelled scepticism. At the beginning of his monumental *On the Powers of Simple Drugs* (*SMT*),³² he says 'anything which has the power to alter our nature we call a drug, just as anything which has the power to increase it we call nutrition; and both of these terms are relative' (*SMT* XI.380: that is, what nourishes one thing may poison another); while 'a power is an active cause, whether in actuality or in prospect (*en tōi mellein*)'; thus the power of heating is in fire actually, but in pyrethrum and castor 'in prospect' (this distinction, between being actually hot and merely being potentially – but actively – so is explored in *Temp.* I.560, 588, 646–9, 659). It is easy enough to label something which promotes vomiting an emetic, and which promotes expectoration an expectorant.

²⁹ It serves 'to underwrite and confirm the truth of those theorems discovered by reason': *On Hippocrates' 'Epidemics'* (*Hipp. Epid.*) XVIIA.13–14 (edited by Wenkebach in Wenkebach and Pfaff 1934); cf. *ibid.* 24–5, 30, 99, 223, 238, 251–2. Cf. *MM* X.29–34, 104, 159, 306, 347, 896, 962; *Temp.* I.590; *On Hippocrates' 'On the Nature of Man'* (*HNH*) XV.152–3 (*HNH* is edited by Mewaldt in Mewaldt *et al.* 1914); *On the Preservation of Health* (*San. Tu.*) VI.210, 223–4 (*San. Tu.* is edited by Koch in Koch *et al.* 1923); *On Hippocrates' 'Aphorisms'* XVIIIB.346; *Hipp. Prog.* XVIIIB.256; it is the 'judge of what is plainly apparent (*enargōs phainomena*)': *Hipp. Epid.* XVIIIB.61–2 (ed. Wenkebach in Wenkebach and Pfaff 1956); both reason and experience are needed for the proper medical method, and together can discover all that is needed: *On Critical Days* (*Di. Dec.*) IX.841–3; cf. 874–5.

³⁰ For more on these issues, see Hankinson, 1991a; 1992b; and 1991b *ad loc.*

³¹ The Eight Modes of Aenesidemus against the Aetiologists, summarised at *PH* I.180–5, are obviously relevant here: see Barnes 1983: 160–70; Hankinson 1995b: 131–4, 204–5; 1998: 269–77; and note also Aenesidemus' argument against sign-inference reported by Sextus at *M* 8.215–20: the fact that Herophilus, Erasistratus and Asclepiades draw incompatible conclusions from the same set of signs (fever, flush, prominence of the veins, moist skin, increased temperature), the first taking it as a sign of 'good blood', the second as indicating a pathological transfer of blood into the arteries from the veins, the third as showing that 'intelligible particles have become lodged in the intelligible pores'.

³² *SMT* fills Kühn XI.379–892, and XII.1–377. The first five books (summarised at the beginning of book six: *SMT* XI.789–90) are generally theoretical in tone; the remainder turn to 'particular or specific matters, or whatever you want to call them'.

But what the actual substance (*ousia*) of such a capacity is, some, like the sceptical philosophers and the doctors called Empiricists, have supposed to be unknowable, while those who claim it to be knowable disagree with one another, some attributing it to the sizes, shapes and positions of the molecules and pores, others to heat, cold, dryness and moisture, each according to their own account of the elements.³³ (*SMT* XI.380–1)

This disagreement need not be undecidable. Galen owns his adherence to the latter view, indeed he claims to have demonstrated it in *Elements According to Hippocrates*. In fact, he thinks that has shown that

both the bodies of animals and indeed of everything else come to be from the hot, the cold, the wet and the dry; and we assert that these are the substances (*ousiai*) of the active powers both in drugs and indeed in everything else; this was shown in the third book of *Mixtures*.³⁴ (*Ibid.* 381)

This is evidently a strong claim (and recall Galen's assertion that Hippocrates had demonstrated the falsity of monism). How (if at all) can he make good upon it? When he repeats the contention at *MM* X.462–3, Galen adduces (as he often does) the testimony of eminent doctors and philosophers in support of his position: not only Hippocrates, but also Diodorus, Mnesitheus, Dieuches and Athenaeus among the doctors, Chrysippus and Aristotle among the philosophers. However, Galen never supposes such agreement of the great and good is sufficient on its own to establish a case (although he will often invoke such agreements in his own defence); the truth of what they uphold must be independently verified. So our question remains to be answered. Here we need briefly to examine Galen's basic epistemology, in particular the 'two criteria of certainty' mentioned above.

PERCEPTIONS, INDUCTIONS AND EXAMPLES

The first thing to stress is that Galen is an empiricist, even if he is no Empiricist. Everything starts from the evidence of the senses; once impugn them, and you have nothing to fall back on.³⁵ At the beginning

³³ On the nature of *dunamis*, and the means of individuating and investigating them, see *Nat.Fac.* II.6–10; *The Powers of the Soul Follow the Mixtures of the Body (QAM)* IV.768–70 (*QAM* is edited in Müller 1891); see also Hankinson 2006; 2009.

³⁴ For an analysis of Galen's 'demonstrations' here and in *Temp.*, see Hankinson 2008a.

³⁵ His story of his encounter with the Peripatetic Alexander of Damascus (traditionally identified with Alexander of Aphrodisias – see Nutton 1979: 189, who notes that the Arabic commentators 'regarded the identification as certain' – but I find it improbable) is very much to the point: Galen is prevailed upon to repeat the vivisectional experiments upon which he had founded much of

of the second book of *SMT*, after typically blaming the 'Sophists going beyond their proper limitations' for his own *makrologia* (XI.459),³⁶ he accuses 'the Sophists' of devaluing the importance of sense-perception, and of making their starting-points remote from it, thus embroiling themselves in matters that are unresolvable by philosophy, and of compounding their own ignorance by doing away with things that are certainly known:

And the majority of them do this in ignorance not only of physical theory, but also of the logical methods which anyone who seeks to demonstrate anything must employ, with the result that they understand neither what has been correctly discovered by the physicists nor what has been reasonably held by them to be doubtful, but in both cases frequently dare to make contrary claims. But, by the gods, if I were to begin by saying that there were four elements, air and earth, water and fire, and that a pale and bright colour belonged to nothing naturally apart from light and fire, and then, calling Empedocles and certain other physicists as witnesses to the contention, were to assert that all bright things were principally composed of fire, without bothering to notice that snow and white lead and ice and innumerable other things were both very bright and very cold . . . and if I were then to turn my back on the refutation [sc. of this position] by means of the senses, and think it perfectly all right to turn to reason (*logos*) and investigate with this [sc. alone] the nature of things, setting no store whatever by unreasoned perception, would not all reasonable people think me to be insane, in my ignorance of where reason needs to start from? For it is from perception, I believe, and by way of perception that we learn all of the following type of propositions, that the sun is bright, flames orange, and coals for the most part red. If we abandon the senses we shall have no sort of demonstration. (Ibid. 459–61)

The evidence of the senses furnishes us with the basic evident truths, and reason must take its start from these, and not from something more remote, if it hopes to establish anything; thus claims such as that of Anaxagoras that snow is really dark (because it is frozen water) are absurd (cf. *Temp.* I.588–9). Indeed, Galen says, indulging in a little retrospective diagnosis, people who make them seem to have gone beyond insanity:

his reputation (cf. *AA* II.672–80), and, on his account at least, incurred not a little envy. Galen says (*Praen.* XIV.627–8) that he had hoped Alexander would 'be our guide in drawing the logical conclusions from what was so revealed'; but before Galen could make his demonstration of how ligature of the recurrent laryngeal nerves left an animal voiceless, Alexander rudely interrupted, saying: 'ought we concede to you this first of all, namely that we should trust what is apparent to the senses?' Whereupon Galen left in a huff, making characteristic remarks about boorish Pyrrhonism.

³⁶ This is something of a Galenic *topos*: see also *PHP* V; *MM* X.384–5; those of us who have ploughed through his *oeuvre* will agree that he fairly desperately needs some such excuse, even while we may be inclined to doubt its sincerity.

For if they overturn things which are plainly evident by way of the senses, they will have nowhere from which to begin their demonstrations. And if they are to begin from things which carry conviction (*pista*), how can they later reasonably fail to carry conviction, for the origins (*archai*) of demonstrations are more convincing (*pistotera*) than the things demonstrated, which rely on other things for their conviction. For the origins of demonstrations are not only convincing in themselves but also in relation to the discovery of what is being sought. (*SMT* XI.462)

This passage summarises the crucial elements of Galen's position: anything we usefully infer by reason rests ultimately on the senses; but if that is so, reason can never discredit them.³⁷ However, it is also in some ways puzzling. First of all, what are 'the origins of demonstration'? I deliberately translate *archē* neutrally here; but in such a context the term will immediately call to mind the Aristotelian *archai*: indemonstrable, immediate first principles from which the theorematc consequences of proof deductively flow.³⁸ Yet the context shows that these origins must be derived directly from perception; and, as Aristotle says, perception as such is properly of particulars, while *archai* in the axiomatic sense must be general (*Post.An.* I.31, 87b28–88a17). Furthermore, insofar as the sorts of examples Galen cites suggest generalities, they will be *negative* generalities (for instance 'not all bright things are fiery'); and such propositions can figure only in destructive deductions in the paradigmatically non-demonstrative second and third figures.³⁹ Galen certainly does on occasion use the language of *archai* in the Aristotelian sense; but here, and in related contexts (for instance *MM* X.31–5), it seems clear that he refers not to the established axioms, but rather to the evident perceptual truths that set us on the road to their discovery. They thus correspond to Aristotle's category of things that are better known (*gnōrimōtera*) to us (in the *ordo cognoscendū*) as opposed to those (namely the axioms) that are better known in themselves (in the *ordo essendi*).⁴⁰

The question then becomes: how are we to move from the commonly agreed starting points to the fundamental axioms? First of all, there is a negative answer: it is not to be done by induction, or the even more feeble argument from analogy or example. In *To Thrasybulus: Is Healthiness*

³⁷ In *Med. Exp.* 15.113–14 he refers to Democritus' dialogue between reason and the senses, in which the senses attack reason: 'wretched mind, taking your evidence from us do you seek to overthrow us? Our overthrow is your downfall too'; and while this occurs on the mouth of a speaker in a fictional dialogue, Galen clearly endorses it even if Democritus did not; see Barnes 1979: 2, 261–2; Kirk, Raven and Schofield 1983: 412–13.

³⁸ Cf. *Post.An.* I.2; Barnes, 1994 ad loc.; Hankinson 1995b.

³⁹ E.g. 'not all bright things are fiery; everything hot is fiery; so not all bright things are hot': a valid deduction in the second-figure mood *Baroco*.

⁴⁰ See e.g. *Post.An.* I.2, 71b33 ff.; *Top.* 6.4, 141a27 ff.; *Phys.* I.1, 184a16 ff., etc. See Barnes 1991: 69–70, 76–9; and Hankinson 1991b: 99–130, esp. 115–16, 122–4.

a *Part of Medicine or Gymnastics?* (*Thras.*)⁴¹ V.812, he writes: 'we have shown in *On Demonstration* that inductions (*epagōgai*)⁴² are useless for scientific demonstrations'; while at *Sem.* IV.581 he remarks: 'where we cannot establish a scientific demonstration by induction, we can hardly do so by way of examples'.

His hostility, which is of course of a piece with his contempt for those who suppose that all bright things are fiery, becomes more apparent in a later passage from *SMT* (XI.469–71), where he accuses 'the Sophists' of passing over scientific accounts in their search for premisses, relying instead on induction, or (heaven forbid) example

as orators do. For someone who says that olive oil is cold, because it is thick like phlegm, is arguing by example (*dia paradeigmatos*), and offers an argument of equal demonstrative strength to that of someone who says that it is hot because it is thick, like birdlime; and someone who says that it is hot because it easily ignites like bitumen offers an argument of equal demonstrative strength to that of someone who says that it is cold because it easily solidifies, like water (470).

This sort of 'argument' is worse than induction, since the latter at least purports to rest on an exhaustive examination of cases. Galen goes on to make the same point in much greater detail: 'the actual nature of induction, and even more so of example, will become perfectly apparent; for I have decided to run through the main points of all that doctors have said about the power of olive oil, apparently plausibly, but not however truly' (471); and the mistakes the doctors have made, in Galen's view, consist in over-optimistic, uncontrolled inferences on the basis of superficial similarities. For instance, Archidamas (according to Diocles)⁴³ infers from the fact that boiling foodstuffs in oil makes them dry and brittle that rubbing human skin with oil burns and desiccates the skin. 'We need to examine', Galen says,

what is persuasive [sc. reasonably so] in this, and what mistaken. We learn from experience (*empeiria*) that anything whatever boiled in oil loses its natural moisture and quickly becomes brittle and fragile, while nothing boiled in water suffers the same effect; and so to this extent Archidamas said nothing false. But he should also have posed and resolved this sort of problem in the same way as Aristotle,

⁴¹ Edited in Helmreich 1893; translated in Singer 1997.

⁴² I leave aside here the technical (albeit important) question of whether 'induction' is a reasonable translation of this term. In general, and in particular in regard to Aristotle, I am inclined to think that it is misleading (Aristotelian *epagōgai* are not, I think, typically patterns of inference). The case is less clear in Galen, but it is at least I think *less* misleading – in the passages we are concerned with it does seem to be something akin to inductive *inference* that concerns him (although the distinction between *epagōgē* and example is owed to Aristotle: *An.Pr.* 2.23–4, 68b15–69a19; cf. *Rhet.* 2.20. Galen wrote short treatises (now lost) on both: *Lib.Prop.* XIX.43.

⁴³ This passage (*SMT* XI.471–4) is edited by van der Eijk 2000–1, Fr. 185.

Theophrastus, and other philosophers did in their physical investigations, if at any rate he wanted to investigate the causes of everything's generation; and insofar as he is not found to do so, he seems to me to most egregiously miss the mark. For we should always posit what is clearly apparent (*phainomenon enargōs*) first, and only then, if we wish, go on to investigate their causes.⁴⁴ (SMT 474–5)

He proceeds to give a lengthy example of the technique in relation to the question of why things boiled in oil become dry and brittle, whereas those boiled in water become moist and soft, and a whole list of related *problēmata* (475–6). One can, he says, supply 'empirical reasons' in response to some of them – we rub athletes with olive oil because experience shows that this mitigates their fatigue – and that's fine as far as it goes. But no empirical trainer or doctor can say *why* oil is a cure for fatigue. Indeed, the powers of oil are problematic: experience seems to suggest that oil is both mordant and emollient, heating and cooling (477–82). The resolution to such difficulties is to be found, albeit with difficulty, if we approach them as physical problems: 'if they are referred to the function of the art (*chreia tēs technēs*), they require a great deal of empirical testing (*peira*), as well as *epilogismoi*, not many in number, but of an accurate and well-defined kind' (482–3).

Epilogismoi are the arguments involving empirical connection beloved of the Empiricists, and as such distinguished by them from the *analogismoi* of the Dogmatists (cf. e.g. SII.77–8); and they are, in a certain obvious sense, inductive in character. How can Galen countenance them? In brief, the answer is that the *epilogismoi* in question have to do (as they typically will for the Empiricists) with the expectation of outcomes. What we can learn (in a sense) by *epilogismos* is the basic truth 'which just about everyone accepts' that rubbing with oil alleviates fatigue (485), *vel sim.* But what about their being 'accurate and well-defined'? Here Galen is pointing to the need to refine the empirical connections discovered by making precise distinctions between different types of oil, and different sorts of patient, and observing the differential effects they apparently have (483–4): crude generalities are of no use. But while such a procedure may be described as inductive in a certain sense, it does not seek to isolate and establish demonstrative first principles: it is this for which Galen thinks the procedure radically unsuited.⁴⁵ The failure of the Rationalists to resolve their disputes derives

⁴⁴ This methodological claim obviously echoes Aristotle's at PA I.1, 639b6–11, 640a14–15, and the related, albeit more cautious remark of Herophilus: 'let the *phainomena* be said first, even if they are not the first [sc. ontologically]': Fr 50a–b von Staden, quoted by Galen at MMX.107; for discussion see von Staden 1989: 117–19; Hankinson 1991b: 189–90.

⁴⁵ The procedure will also need to be capable of distinguishing between the effects of the real natural powers of the substance, and those which are externally acquired (485). For this distinction, Galen

from their inability correctly to push the questions back to genuine first principles. But the question remains: how is this to be done? How is Galen to avoid the tempting Pyrrhonian conclusion that all such disputes are undecidable, because any attempt to resolve them is necessarily question-begging? To put it in another way, where is the criterion?

THE VALUE OF SENSES AND REASON

In one sense, we have already given Galen's answer: there are two criteria, namely the senses properly constituted, and reason.⁴⁶ And Galen regularly insists that sense-perception is the ultimate criterion: if you want to know whether something is actually hot or cold, feel it (*Temp.* I.588, 598):

This identification is accessible to everybody, since our sense of touch is naturally equipped to make these distinctions, teaching us that fire is hot, ice cold. If anyone has a conception of hot and cold derived from any other source, I should be glad to know of it. It is a very strange kind of wisdom – one might rather say, in all honesty, stupidity – when people claim that there is prior to perception some other criterion of perceptible fact.⁴⁷

None the less, it is for reasoned argument, operating upon data collected by careful, systematic observation, to determine, in any particular case, whether the source of the perceptible quality is innate or adventitious, absolute or relative (*ibid.* 589–95), and this is a long and difficult business.

In the passage of *Temp.* under consideration (I.577–98), the task is to determine what the natural temperaments are of people at different stages of their lives. Galen first remarks that embryos and newborns are evidently hot and wet (577–8), the reason being that they are formed from blood and semen 'which are hot and wet' (Are they? How do we tell? Galen does not say);⁴⁸ a sign of the extreme moisture 'not just in the vessels, organs and flesh, but even in the bones' is the fact that they are pliable and easily moulded, like wax (578). Moreover, you can tell by eating them (or simply

refers the reader to the discussion in Book 3 of *Temp.* (I.666–74): even heated opium will quickly lose its acquired heat, and effect its natural cooling tendency (*ibid.* 673). Moreover, a substance that is in its actual nature cooling (such as olive oil) can have its nature altered by external action so as to turn into its opposite: thus oil that is ignited clearly exhibits the hot property of nourishing the flame (669–70; cf. 656–8).

⁴⁶ *MMX*.29, 306; *HNH XV*.152–3; *On Hippocrates' Aphorisms* (*Hipp.Aph.*) XVII.B.346; *On Antecedent Causes* [*CP*] ii 16; *On Healing by Venesection* (*Cur.Rat.Ven.Sect.*) XI.255–6. *CP* is edited with translation and commentary in Hankinson 1998; *Cur.Rat.Ven.Sect.* is translated in Brain 1986.

⁴⁷ *Temp.* I.588; trans. after Singer 1997; cf. *Praen.* XIV.627–8, n. 35 above.

⁴⁸ That blood is by nature hot and wet is a commonplace; but of course the question is, precisely, what justification does it rest on? Equally, Galen declares semen to be hot and wet (although that of the male is hotter and drier, that of the female cooler and wetter: *Sem.* IV.536–7; 623–5).

by anatomical inspection) that baby animals are 'mucous and flabby', their bones being 'similar in quality to recently solidified cheese'; for this reason they make bad eating, except in the case of kid, since goats are by nature dry animals (of course kid will still be moister than adult goat – but only relatively so). By contrast, old animals are hard and dry (579–80).

How, then, Galen asks, have some doctors come to suppose that old age is naturally wet? They make the inference from the fact that old people produce large amounts of moist residue, phlegm and saliva (580); but this is consistent with the view that as far as their organic parts are concerned the old are dry:

The very reason why each part becomes dry is that it is unable to receive the same degree of nourishment because of the weakness of the [sc. innate] heat . . . the old are thus wet not in their actual bodily parts, but in these excretions . . . they are thus dry in the same sense that children are wet, i.e. in the solid parts of the body.⁴⁹ (*Temp.* I.581)

Thus we can infer that old age is dry. That it is also cold is perceptually obvious; indeed 'it is a fact that has never been disputed' (582), and is confirmed by the type of illness to which the elderly are prone, which are 'cold' ailments (but again, how are they determined as being cold?).

There is, however, much dispute as to the relative heat of children and adults; and 'there is a plausibility in the arguments on both sides' (583). One camp argues that children are hotter, because blood is the hottest humour and children have more of it in relation to other physical stuffs and parts; the other contends that adults have more blood in absolute terms, while yellow bile (which adults have more of relatively) is in any case hotter than blood (583–4). The former points to the fact that children eat and metabolise more rapidly as a sign of excessive innate heat; the latter ascribe growth to moisture rather than heat, and instance children's increased tendency to vomit as a sign of their inability to process the food by digestion (a process involving heat); and other similar, and similarly conflicting, pieces of evidence are adduced by both sides (584–6).

Galen diagnoses the dispute as follows:

Neither side starts from anything like first principles; indeed they practically appear to deduce primary propositions from secondary ones, and they formulate their argument as though their audience already knew the manner in which growth, digestion and nutrition came about. The same applies to their expositions on perception, intellection and the natural and practical activities (*praktikai kai phusikai*

⁴⁹ This passage illustrates Galen's later claim that, in the case of the discernment of moistness and dryness, the evidence of the senses must be supplemented by reason (*Temp.* I.598).

energeiai) . . . None of these things is easy to understand; each requires a very long process of inquiry, and even then may be impossible to discover without a prior understanding of the difference between wet, dry, cold and hot mixtures (*kra-seis*) . . . Their demonstrations are conducted reciprocally (*di' allēlōn kai ex allēlōn*), relying on what is in fact being sought as if it were already known . . . They then seek to prove what is now at issue on the basis of these things as if they were already established. (*Temp.* I.586–7)

Here again Galen refers to other, more complete discussions, presumably in the lost *On Demonstration*. The type of argument he criticises (borrowing the same terminology) is that which the sceptics stigmatised as the mode of circular reasoning, or reciprocity:⁵⁰ they rely on what ought to still be in dispute in order to 'establish' conclusions, which they then use to support the original dubious premisses.

But again, how does Galen think he avoids this pitfall? To be sure, he is logically conscious in a way in which his opponents (at least in his view) are not. He thinks that any proper resolution of these issues can only be arrived at on the basis of the correct physics, that of the four qualities and their interactions – but how is that to be established as the one true physics? Here Galen has something more to say: 'the inquiry must be conducted purely on the basis of the essential nature of the subjects of inquiry'; but again, how is this to be done? How can we unequivocally determine those essential natures? It is one thing to say (as Galen proceeds to) that we should trust the senses for our primary determinations of the actual qualities of things, and not be misled by Sophistical sharp practice, of the sort that says that 'swans should not be said to be white without prior logical investigation' (589); it is quite another to support the claim 'of the best school of philosophy' that these phenomenal properties are in some sense indicative of the fundamental qualitative principles and elements (589–90). There is more than a hint of hand-waving in the air.

Let us return again, then, to the nature of the supposed methodology for arriving at first principles. Some of them, Galen thinks, will be evident a priori truths: he gives a list of such axioms at *MM* X.36–7, those which

grasped by the intellect on their first appearance and which are indemonstrable, such as for example that two quantities equal to a given quantity are equal to one another, and that equals added to equals yield equals, and that when equals are subtracted from equals their remainders are equal. And they say that 'nothing

⁵⁰ The *diallēlos tropos*, the fifth of the methodological Modes of Agrippa: *PH* I.164–79; see Barnes 1990: 58–89.

occurs causelessly' is of this type, and similarly 'everything comes to be from something which is', and that nothing comes to be from the absolutely non-existent, and equally that nothing is annihilated into the absolutely non-existent, and that it is necessary that everything must either be affirmed or denied, and many other propositions of this sort which they discuss in the logical works, and which I too have recorded in my *On Demonstration* with all the clarity of which I am capable.

Phainomena, then, are 'either grasped exclusively by perception, or by the intellect on their first appearance, and in neither case require demonstration' (38).⁵¹ But clearly this sort of a priori truth will not encompass the axioms of physics; and Galen evidently does not think that physical principles are pure laws of thought. The essences of things will include their physical bases; but real essences of this sort cannot be determined simply by ratiocination. Neither, on the other hand, are they directly evident to perception (it is the incoherent supposition that they are which is responsible, in Galen's opinion, for all of the follies of Methodism: *MM* X.35). Perception and intellect are the only routes to the truth, yet neither of them seems able to supply us with an understanding of the essences, which is a prerequisite of doing any serious science. Once again, we seem to be at an impasse.

THE 'LOGICAL METHODS'

To try and find a way out of it, we need to turn to Galen's explanations of the 'logical methods'. At the beginning of *Ars Medica*, Galen says that

There are three types of exposition (*didaskalia*), each with their own place in the order. First is that which derives from the notion of an end (*telos*), by analysis. Second is that from the synthesis of the analysis. Third is that from the breaking down (*dialusis*) of the definition. (*Ars Med.*⁵² I.305).

Galen mentions analysis elsewhere (although here more than ever we have cause to regret the loss of *On Demonstration*). At *Thras.* V.806–7, he notes that we may start either from a knowledge of the actual essence of something (this is the synthetic procedure of demonstration), or from some common conception: and the latter procedure is that of analysis. Analysis is to be applied, then, prior to our possessing a detailed understanding of the

⁵¹ On the force of 'at their first appearance' and the notion of indemonstrability, see Barnes 1991: 76–9; Hankinson 1991b: 117–29.

⁵² Edited with French translation in Boudon-Millot 2000a; English translation in Singer 1997. The authenticity of *Ars* has been questioned by Kollesch (Kollesch 1988); but her view has not won widespread acceptance.

essence of the kind in question: it is a means of getting us to a grasp of that essence. As such, it is of primary importance in Galen's logic of discovery. For it is only when we have grasped (and perhaps broken down by dialysis) those essences that demonstrations in their logical form can be constructed.

Analysis is a method derived from geometry, and consists in working back from a problem, or a set of obvious geometrical facts, to the axioms from which the problem can be solved, or the facts explained.⁵³ At *MMX*.33, Galen considers an elementary geometrical problem: the determination of the area of a right triangle, whose sides enclosing the right angle are of five and twelve feet:

The matter at issue has been proved from two premisses, one stating that (i) the area [sc. of a rectangle] enclosed by sides of five and twelve feet is sixty feet, the other stating [and showing]⁵⁴ that (ii) the triangle is half of the given area. Each of these needs to be proved on the basis of further premisses, which themselves are based on others, until we arrive at the primary ones, which derive their justification neither from others, nor from demonstration, but from themselves.⁵⁵ The same applies, in my opinion, to everything demonstrated in medical science: all must be reduced to certain primary propositions which are self-justifying. (*MMX*.33–4).

Medicine will avoid corrosive *diaphōniai* by aping geometry and arithmetic. In what follows, Galen strongly suggests that in geometry at least the primary propositions will be definitions (or elements thereof), such as 'a

⁵³ On analysis, see Robinson 1969; Hintikka and Remes 1974. Plato's image of the proper geometrical procedure (in the 'Divided Line.' *Rep.* 6, 509d–511e), of starting from 'hypotheses' and ascending therefrom to an 'unhypothesised' *archē*, and then working back down again from this certain Archimedean point to rebuild geometry on firm foundations, is as seductive as it is difficult to supply genuine content for. In this context it is worth noting a passage of Eustratius: in *A.Pst.* 2.25–7; 3.26–34: an 'analytical syllogism' is one whose *premisses* are 'better known to us', while the *conclusion* is 'better known by nature' (cf. Barnes 1997a: 84, n. 240). For roughly contemporary discussions of analysis, see Alcinous, *Handbook of Platonism* 5 (Dillon 1993: 23–5), Plotinus, I.3.4.12 ff.; Proclus, *In Tim.* I.276.10 ff.

⁵⁴ This seems out of place, and may be an interpolation: the business of showing is presumably undertaken by the prior premisses from which this is derived.

⁵⁵ Cf. *Pecc.Dig.* V.78–9: every argument should be assessed for its validity, and their proponents should be asked to clarify what criterion they expect them to be assessed by: 'and one must check that they have not proposed a criterion for assessment which is itself in need of another criterion, and so on; this kind of infinite regress is particularly to be guarded against as one investigates... what is the primary criterion. And then one must refer each individual matter to it, a process which some philosophers call "analysis", being a kind of "ascent" from the lower-level criteria to the first one'. This is a slightly looser notion of analysis – hence perhaps its attribution to 'some philosophers' – but it is certainly relevant (see further below on indication); and cf. Barnes 1991: 67, n. 55, who notes that in some of Galen's uses (*On Distinctions between Pulses* [*Diff.Puls.*] VIII.601–2, 608–9; cf. *ibid.* 736) 'analysis and division are very close'. See also *MM X*.115; *PHP* V.753–4; *Cur.Rat.Ven.Sect.* XI.258; *On Difficulty of Breathing* (*Diff.Resp.*) VII.895. On Galen's view of division, see Hankinson 1991b: 100–6. For another account of Galen's 'logical methods', see Frede 1981: 73–81.

line is that which has length but no breadth', along with general axioms (Euclidian 'common notions') such as those of equality. One of the three methods of *Arts* is that of dialysis of definitions, which presumably involves taking definitions ('man is a rational mortal animal') and deriving from them necessary universal propositions that can then function as axioms in demonstrations ('man is rational'; 'all men are by nature rational'). This procedure is itself problematic, as the alleged equivalence of the last two sentences shows. But however that may be, it is obviously connected with the procedure of division, which, following Plato, Galen takes to be central to the method of discovery,⁵⁶ but which also, following Aristotle,⁵⁷ he apparently thinks of as merely a systematisation of information about the world formally imprinted on the sensoria (here a long passage at the end of Book 2 of *MM* [X.127–56] is relevant).⁵⁸ On this view, we all have (or have the capacity for having) a pre-theoretical recognition of the kinds into which the world objectively⁵⁹ divides, on the basis of which we may determine by analysis the actual *differentiae* in virtue of which those divisions are made.⁶⁰ This will yield real definitions of the *infimae species*, which can then be broken down to yield (one class of) axiomatic principles for proof. As Galen says on numerous occasions, 'a scientific account is one which proceeds from the essence of the things, as was demonstrated in *On Demonstration*'.⁶¹ It is worth emphasizing how much the possibility of such a procedure depends upon our having the ability, in Aristotelian fashion, for registering in perception, albeit not in a fully articulated fashion, the real essential natures of natural kinds

Returning to the triangle case, we may fill out Galen's account of analysis a little further. (i) is of course a special case of the general formula for calculating the area of a rectangle; and we may further generalise that (to the case of parallelograms) by seeing it as a special case of the formula $A = b.h$. Equally (ii) can be shown to be a special case of the general formula relating the area of triangles to that of their associated parallelograms, which yields the general area formula $A = \frac{1}{2} b.h$. How do we know they are certain? First of all, they are clearly such that if they are true, then the

⁵⁶ See Barnes 1991: 65–7. ⁵⁷ See esp. *Post.An.* 2.19; *Metaph.* 1.1; *Phys.* 1.1.

⁵⁸ See Hankinson 1991b: ad loc.

⁵⁹ 'At the joints': *MM* X.123: cf. Plato, *Phdr.* 265e; most doctors fail to make the appropriate divisions: *Therapeutics to Glaucón* (*MMG*) XI.3–4.

⁶⁰ Cf. *MM* X.20–8, esp. 24–5, where the example of the division of the alphabet into vowels and consonants, vowels into long, short and common, consonants into semivowels and mutes, and the last into the letters ['elements'] themselves, stands proxy for the procedure as a whole.

⁶¹ *PHP* V 593; cf. *MM* X 40, 84, 161, 174, etc.

geometrical facts will be as we see that they are. But that is not enough: we need to be able to see that it is *only* if these axioms are true that the facts about the triangle's area could hold. In the geometrical case, this is surely (at least for Euclidian spaces) hugely plausible; but as the fact of the successful development of alternative geometries shows, it is perfectly possible to adopt distinct axiom sets that will yield distinct conclusions about such questions as the relation of the area of a triangle to the length of its sides. Yet even so, the question of whether there is a single formula that covers all cases of whatever magnitude is surely (for a given space) an empirical one. After all, geometry began as a practical matter of land-measurement; and Euclidian geometry would have seemed to have comprised not only the only non-arbitrary and intuitively plausible axiom-set, but also the only one that actually answered to geometrical facts on the ground. Galen is onto something here, even if he is ignorant (non-culpably of course) of the possibility of alternative geometries.

OBVIOUS TRUTH AND THE ABSENCE OF PLAUSIBLE ALTERNATIVES

We now have at least a partial (albeit perhaps also provisional) answer to our earlier question: How can we know that the axioms thus arrived at are true? Partly because they seem to be obviously true (indeed simply to embody definitions); partly because there is no remotely plausible alternative to them.⁶² But more important is the fact that not only do they yield the right kind of answer: they can be seen to do so consistently. In *On the Diagnosis and Cure of the Errors of the Soul* (*Pecc.Dig.*),⁶³ Galen again emphasizes the necessity of a thorough theoretical and practical grounding in logical theory; but then adds

One should test the method in some other context to see if it genuinely does discover the truth in the subject under investigation. The nature of the facts under investigation should be enough to provide evidence to the inquirer of their truth, as in the geometrical context, where one divides a given line into a prescribed number of parts. (*Pecc.Dig.* V.66).

⁶² Some of the texts on analysis suggest an even stronger relationship: the 'hypotheses' from which the theorems are deduced are themselves shown to be logical consequences of the theorems (along perhaps with other 'hypotheses'): Proclus, *On the First Book of Euclid*, 252 ff. It is worth comparing all of this with Descartes' similar views on hypothesis and proof in the empirical sciences: see Clarke 1982: chs. 5 and 6.

⁶³ Edited by Marquardt 1884, and de Boer 1937; translated in Singer 1997.

You are set a problem:

Divide a line into five equal parts, or seven, or twenty, or a hundred; once you find your method, or employ one which you have been taught, and divide it into the desired number of parts, the actual fact of the matter will announce itself to you, and it will be clear that each of the parts of the line so divided is exactly equal. (Ibid. 66–7)

The same thing applies in the case of inscribing or circumscribing circles in regular polygons: ‘if one is immediately able to perform the task according to the method . . . , the fact that one has found what one was looking for will be evident from the thing itself’ (67); in other words, the very success of the method both shows that the problem has been solved and that the method is correct, that is that it will continue to yield true results. But might it not simply have been chance? Galen does not address this possibility; but I suppose him to have thought that it is *evident*, in that the method *makes clear why* success has been achieved, and even *that* it has – after all, in the case of dividing the line, we may measure the resulting segments – but we are more likely to suppose the method to have worked if we just see that it *must* yield such equal divisions. A passage from *Cur.Rat.Ven.Sect.* XI.255–6 is relevant here; after reiterating that ‘there are two instruments of discovery, *logos* and *peira*’, he notes that ‘reason begins from common notions (*koinai ennoiai*) and discovers something logically and so constructs a demonstration’; and this rational procedure (which is only deployed by technicians, unlike *peira*, which is common property), beginning from common notions, is once again that of analysis.⁶⁴ Even so,

the geometer only demonstrates the first theorem of his *technē* by the first method [sc. *peira*]; thereafter he employs the second alone, using in addition for his demonstration the conclusion drawn from the first. The further away he gets from his first theorem the further he gets from the first method, and he ends up using it least of all, demonstrating other things on the basis of those already demonstrated, and others again on the basis of these, and yet more on their basis, until he arrives at a proof of things utterly unbelievable to the layman, not only the sizes of the sun, moon and earth, but knowledge of their distances also,⁶⁵ on the basis of which discoveries those who follow this path make clocks and clepsydras and predict eclipses of the sun and moon.⁶⁶

⁶⁴ An excellent example of such a form of argument is to be found in the short work *On the Best Constitution of the Body* (*Opt.Corp.Const.*): trans. in Singer 1997.

⁶⁵ Galen is no doubt alluding to Aristarchus’ famous text *On the Sizes and Distances of the Sun and Moon*, which is indeed a tour de force of applied geometrical reasoning (see Heath 1913); at *UP* IV.359, Aristarchus is mentioned along with Plato, Aristotle and Archimedes as an exemplar of highly intelligent humanity.

⁶⁶ *Cur.Rat.Ven.Sect.* XI.256; cf. *Pecc.Dig.* V.68–9.

The suggestion that the geometer starts with empirical proofs is striking, and I am not sure exactly what to make of it (it is unclear what the subject matter of such proofs might be); but I am inclined to suppose again that this is a reference to the empirical origins of geometry in practical mensuration.

Equally noteworthy is the reference to the evidence of astronomical confirmation; and Galen's confidence in the security of proofs in mathematical astronomy is attested in a striking way elsewhere. At *PHP* V.654 he refers to Euclid's having demonstrated the truth of geocentrism, presumably on the grounds of the indiscernibility of stellar parallax.⁶⁷ but the point is that that 'proof' is sound only on the assumption that the fixed stars are not arbitrarily distant – which of course, as it turns out, in the appropriate sense they are. This exposes in striking manner the frailty of Galen's apodeictic edifice; and we shall return to it at the end.

The reference to the calibration of clocks recalls another discussion from *Pecc.Dig.* Having said that 'those who wish to become expert in scientific demonstration . . . should first practise . . . on a number of individual cases which are such as to bear witness of themselves [sc. to their truth] to the inquirer, as is the case in arithmetic and geometry' (V.79–80), he then gives 'an example drawn from the *technē* of architecture', the construction of an accurate timepiece:

Imagine a city is being built and its prospective inhabitants wish to know, not approximately (*stochastikōs*) but accurately and for every day, how much time has already elapsed and how much remains until sunset. According to the method of analysis, this problem must first be referred to the primary criterion, if we are to solve it in the manner we learnt in studying the theory of gnomons; then we must go back down the same path in the opposite direction to perform the synthesis. (*Pecc.Dig.* V.80).

The 'primary criterion' here is, presumably, the success or failure of the solution so discovered to account for the problem in the first place: in other words, we must ask ourselves what is required in order to yield the solution. The synthesis, then, proceeds from the *archai* so discovered to yield the solution as a deductive consequence.⁶⁸ In fact, several stages of analysis and synthesis are required to answer several distinct problems: how to design the body in question, how to make a perfectly flat surface for it, what sort of instruments should be used to engrave it (81). Then the construction can be made, and a further set of tests will determine whether it has been accurately carried out: does the shadow at sunrise correspond with the

⁶⁷ This remained a problem for heliocentrism until the nineteenth century, when it was finally detected.

⁶⁸ See also *Diff.Puls.* VIII.601–2, 608–9; *PHP* V.753.

first line, and that of sunset with the last? Are the spaces between the lines proportional (82)?⁶⁹ Finally, one may test it against a simple water-clock, to see if the hour-intervals are equal (82–3). Equally, one may use the method to design and calibrate an annual water-clock (84–6).⁷⁰

APPLICATIONS AND LIMITATIONS OF THE MODEL

This sort of exercise, successfully carried out, is designed to achieve two things (apart from its practical results): to persuade the engineer that the method really can deliver secure, empirically testable results, and hence to inspire confidence in the outcome of applying it in other areas. But how can this model be applied to the empirical fluidities of medicine? And what are the limitations of such an application? Galen himself notes that ‘while the man who constructs a sundial or water-clock wrongly is plainly refuted by the fact of the matter itself, it is not the case that there is an equivalent clear refutation in the case of philosophical theorems’ (89).

Moreover, as I noted at the outset, not everything in Galen’s view will yield to empirically based rational inquiry. Some questions will remain irremediably in the domain of empty speculation. As an example of such unanswerable questions, Galen instances the following: whether the universe is created or not, whether there is an extra-cosmic void, whether god is corporeal or not, whether the soul is (or is not) corporeal or mortal, and what its substance is.⁷¹ He offers a similar list in *PHP*:

That the majority of disagreements in philosophy have not been concluded is not surprising, since these issues are not susceptible of clear judgement by empirical test (*peira*); for this reason some assert that the universe is ungenerated, others that it had a beginning, just as some say there is nothing outside it enclosing it, while others say that there is, and of the latter some hold it to be void containing no substance in it while others say there are other universes uncountable in number, a multitude stretching to infinity. It is impossible to adjudicate such a disagreement on the basis of clear perception. (*PHP* V.766).

⁶⁹ This is important: in a sundial, the hour lines will not be regularly spaced; they will be further apart at midday and closer at morning and evening, when the sun’s motion in azimuth is at its least. But since we assume that the sun moves at a constant velocity along the regular curve of the ecliptic, their intervals will vary proportionally.

⁷⁰ Since the Roman day divided the period between sunrise and sunset into twelve equal intervals, the length of the hour varied seasonally: and this fact had to be reproduced in the calibration of the clock. Thus at the summer solstice the hour lines are at their highest, at the winter solstice their lowest. The distances between each line for any given day will be equal.

⁷¹ Until very recently, *Sent.*, probably Galen’s very last work, was thought to survive only in a mixture of Latin, Arabic and Hebrew, along with a few Greek fragments, and was edited on this basis by Nutton 1999. However, Boudon-Millor and Pietrobelli (2005) provide a full edition of the Greek text recovered from a recently re-discovered manuscript.

All such disputes are at best susceptible of merely plausible argument, at worst quite idle. Similar points are made in *Pecc.Dig.* V.67: 'whether the universe is created or uncreated, finite or infinite, the number of waves in the sea: none of these can be settled on the basis of the evident nature of the fact investigated', as the geometrical examples had been. Galen reports a debate between a Peripatetic, a Stoic and an Epicurean on such questions: the Peripatetic denying absolutely the existence of void, and asserting the uniqueness of the cosmos, the Stoic agreeing about its uniqueness and continuousness, but allowing there to be an extramundane void, the Epicurean

admitting both types of void . . . and [holding] that since the void is infinite in extent the universes within it must be infinite in number . . . but I know precisely that none of them can produce true demonstrations, but only contingent and likely arguments, and sometimes not even that.⁷² (*Pecc.Dig.* V.101–2).

This passage follows another in the same vein: some philosophers make rash claims about how bodies would behave in the void: would they stay put or move downwards?⁷³

An architect would not have expressed an opinion on this issue without himself going to the void part of the universe and testing the matter empirically (*peirai*), by observing clearly whether any object placed in it stayed put or moved. I know he would employ this sort of starting-point for his demonstrations: clear, unequivocal, and agreed by everybody. (98–9).

He then recounts another dispute between two philosophers, as to whether wood is heavier than water: both argued at great length from abstract hypotheses, the one that wood was more compressed, the other that it contains more void. Their arguments never went beyond mere plausibility 'as if this were a matter incapable of being settled by perception' (99). The philosophers cannot see how any such test can be made: you can neither weigh water on a scale, nor fill a vessel precisely with wood. However the architect present is able easily both to outline a method for comparing them, and to explain its reliability, at any rate to everyone except the

⁷² This should be compared with Galen's careful, Aristotelian distinctions between different types of argument: demonstrative, dialectical, rhetorical, and sophistical: *PHP* V.220–8; see Tieleman 1996a: 12–23, for a detailed analysis.

⁷³ At issue here is a disagreement between Aristotle and the atomists: Aristotle held that motion in a void was impossible, since velocity was a function of the natural tendency of an object to move divided by the resistance of the medium, hence in a void all velocities should be infinite, which is absurd: *Phys.* 4.8, esp. 214b28–216a23; by contrast, the Epicureans held that everything was constantly moving 'downwards' through the void: Lucretius, 2.184–215.

philosophers, who find it almost impossible to grasp (100).⁷⁴ Here again we have a problem, which suggests a method of approach involving abstract geometry and practical construction, whose adequacy can itself further be tested.⁷⁵

The geometrical examples are important not just because they afford a clear empirical test of the adequacy of the method and its hypotheses; they are supposed also to indicate how the application of the analytical method renders the hypotheses more than merely hypotheses, but firmly established axioms;⁷⁶ and for this more is required than merely that the theory yields the right answers, since, as Aenesidemus had insisted, different and incompatible theories could do that. In some sense, the phenomena, and the success of the theory in entailing them, plus perhaps certain other *a priori* considerations of the sort Galen regularly relies upon, such as for example ‘nothing occurs without a cause’ (*MM* X.49–50), are supposed to establish the truth of the theory. Empirical testing, *peira*, is also crucial; but while critical tests may suffice (*ceteris paribus*) to *refute* a theory⁷⁷ how are they to *establish* one?

Of course they cannot; indeed this is Galen’s major objection to the Empiricist method: it can never prove that the correlations obtained are relevant, projectible ones (cf. the strictures on induction and example: above, 216–18). Rather, we need some non-arbitrary way of distinguishing between the various theoretical substructures offered, which is exactly what Galen claims cannot be done in the undecidable, ‘philosophical’ cases.⁷⁸ But how can it be done in theoretical physics, a certain knowledge of the truth of which Galen takes to be a prerequisite to successful rational

⁷⁴ Galen does not say what the method was, but presumably, to fit the geometrical context, it should have involved the calculation of the volume of a given piece of wood and constructing a vessel of the same volume, then weighing the vessel filled with water and the empty vessel along with the wood.

⁷⁵ At least, one supposes that this last step could also be accomplished, by specifying some alternative means of checking the results, as in the case of the sundial and water-clock.

⁷⁶ The echoes of Plato’s vague account in the ‘Divided Line’ passage (*Rep.* 6, 510b–511e) are deliberate; Galen uses Plato’s own metaphor of using hypotheses as stepping-stones, *epibaseis*.

⁷⁷ There are numerous examples of this, e.g. at *Sem.* IV.605–7: if the male supplies only form and the female only matter, then offspring should resemble either exclusively their fathers or exclusively their mothers – but they don’t; *PHP* V.237–8: if speech were produced by the heart, it would not be impaired by sections of nerves in the neck and head – but it is; *Hipp.Elem.* I.434–7: if man were unitary, he would not feel pain – but he does. For more on this demonstration, see further pp. 233–4 below; note that these refutations take the form of *modus tollens*, or the second Stoic indemonstrable, a fact explicitly pointed out in the latter passage.

⁷⁸ To which add the enormously important case of the substantial nature of the soul, a question about which Galen regularly declares himself to be at a loss: cf. e.g. *Sent.* 3.1–2, 14.1–15.5, 58.22–60.11, 110.4–120.14; *The Soul’s Dependence on the Body (QAM)* IV.776; *PHP* V.762–6, 793–4; *On the Formation of the Foetus (Foet. Form.)* IV.701–2; on these issues, see Hankinson 2006 and forthcoming.

medical theory and practice? Here we need to return once again to formal logic, starting with the concept of *endeixis*, or indication.

ENDEIXIS

Galen defines *endeixis* as 'as it were a reflection (*emphasis*) of the consequence (*akolouthia*); what follows (*to akolouthon*) can also be discovered by *peira* but not in such a way as to be reflected in the antecedent, which is why no Empiricist ever talks about anything reflecting anything else' (*MM* X.126), by contrast with 'the one who sets out to discover what follows from the actual nature of the matter without *peira*: that is to perform the discovery by indication (*endeixeî*), who undertakes his investigation by *endeixis*' (ibid. 127).⁷⁹ *Endeixis* is closely related to the Stoic notion of the indicative sign (above, 209–10),⁸⁰ and the language of *emphasis* recalls one of the accounts of the truth-conditions of the conditional offered by Sextus: 'those who judge by *emphasis* say that a conditional is true when the consequent is potentially contained in the antecedent' (*PH* 2.112). The precise interpretation of that criterion is unclear; but that need not greatly concern us here.⁸¹ The point is that, in such cases there should be more than merely a material connection between antecedent and consequent: the antecedent must be such as to entail it; or, alternatively, it must be evident that the holding of the antecedent is incompatible with the consequent's failure to hold. To borrow the language of another discussion of strong conditional truth-conditions, the antecedent and the negation of the consequent must be in a state of conflict (*machē*).⁸² But the discernment of genuine conflict and consequence is precisely the job of the skilled logician (*MM* X.18; *Pecc.Dig.* V.73–4), although in some sense all people have this basic logical ability.⁸³ All of this would suggest that *endeixis* should be a means of penetrating to the internal causal structures of things in virtue of which they present the phenomenal aspects they do.

Endeixis, in Galen and more generally in medical contexts, requires much further study. However, the broad outlines of his deployment of the notion seem clear enough; and it appears that he does not in general use *endeixis* for this type of inference; and although he uses the term in a variety of

⁷⁹ Reading '*endeixeî tēn*' for the '*endeixeis kai*' printed by Kühn (see Hankinson 1991b: 237).

⁸⁰ For very brief accounts of the concept of *endeixis* in Galen, see Durling 1991; Kudlien 1991 see also Barnes 1991: 98–102; Hankinson 1991b: 202–6.

⁸¹ See further Frede 1974: 90–3; Croissant 1986.

⁸² On the concept of conflict in play here, see Barnes 1980.

⁸³ *Nat.Fac.* II.28; *On Hippocrates' 'Surgery'* (*Hipp.Off.Med.*) XVIII B 650; *Pecc.Dig.* V.75–6.

different contexts (many of them clearly untechnical), the most frequent context involves what he calls 'therapeutic indications', where diagnosis of the underlying condition of the patient's body suggests the appropriate therapy. Here the direction of inference is *from* some internal (and hence in some sense hidden, non-phenomenal) condition to a further (temporarily non-evident) conclusion, and hence does *not* parallel the Stoic indicative sign, which moves from phenomena to the necessary causal underpinnings of the phenomena.⁸⁴

At *Inst. Log.* 11.1, Galen writes that *endeixis* 'is what they call discovery of what is sought on the basis of the nature of the matter by way of an evident consequence'; and he contrasts it with *apodeixis*, 'an argument concluding from true premisses'.⁸⁵ 'The nature of the matter'⁸⁶ is presumably a proper, essential characterisation of what is actually going on; in other words, this sort of indication rests upon theoretical understanding, and hence cannot yield it. A key text here is *MM* X.242–9, where he castigates the Empiricists for inferring directly from the antecedent causal circumstances surrounding a particular condition to the appropriate therapy for it:⁸⁷ 'none of the antecedent causes of the condition (*diathesis*) indicate therapy; rather the indication of the latter begins from the condition itself. A knowledge of the relevant antecedent causes (was the illness caused by a scorpion's sting, or by some other venom?), and of the ambient circumstances, allow

⁸⁴ This is of course possible only if the phenomena *entail* the truth of that causal account, either directly or in concert with other incontrovertible truths of either perception or reason. Here debates among the philosophical schools are relevant, most obviously that reported by Philodemus in *On Signs*: the Stoics think that certain generalisations ('all men are mortal' for instance) can be established simply by observing the a priori conflict between humanity and immortality, by the so-called method of contraposition: if it's not mortal it *can't* be a man. By contrast, the Epicureans hold that such claims are question-begging – we have to have established this incompatibility before we can rely on it, and the source of that establishment is empirical and epistemic: our repeated, and uncontroverted, experience of the mortality of individual men somehow makes it unthinkable for us to suppose that any man might not be mortal. But of course such 'conceptual' necessity will not be enough for the Stoics – or for Galen for that matter.

⁸⁵ Cf. *Pecc. Dig.* V.74–5: 'sometimes when the argument only requires an indication, they seek to supply a demonstration'; this suggests that *endeixis* and *apodeixis* operate (at least some of the time) in the same logical arena (i.e. *endeixis* will not be a route to first principles). Singer (1997: 416), commenting on this sentence, glosses *endeixis* as 'a technical term for a type of argument below the status of full logical proof [sc. *apodeixis*]'; this is I think generally correct: but *endeixis* is 'below the status' of *apodeixis* not in its being any less secure, but simply in that the full logical structure of the premisses which lead to the conclusion are not spelled out; moreover, *endeixis* is a function, I think, of the *items themselves*, not of propositions about them: thus Galen will speak of 'the indication derived from the parts' (*MM* X.897, 900, 927–8); if this is right, this also serves to distinguish Galenic *endeixis* from the Stoic indicative sign.

⁸⁶ As Kudlien 1991: 106, notes, this characterisation of the provenance of *endeixis* is ubiquitous: cf., *MM* X.102, 104, 157; *Hipp. Epid.* XVIIA.814: 'deriving the force of the argument indicatively, from the nature of the matter'.

⁸⁷ On the issues involved here, see Hankinson 1987a, 1987b.

us to deduce the current state of the patient's internal *krasis*, and the extent of its deviation from his particular norm; and it is the knowledge of the latter that yields specific therapeutic indications.⁸⁸ So it seems that, in general, the search for *endeixeis* properly so-called will not yield the sort of argument *to* essential facts of the matter that will ground the deductive structure of the axiomatic system (although there are passages where he talks, more loosely of *endeixis* of the internal structures of things: *Temp.* I.591, 593).⁸⁹

IMPLICATIONS

So how are we to get there? Again, the short answer is: by analysis. But how is that to be achieved? And what form will this very general analysis, the one which is supposed to get us to the underlying true physics, take?⁹⁰ Here we need to return to *Hipp.Elem.*, the text where Galen explicitly attributes the appropriate method to Hippocrates (*Hipp.Elem.* I.415) in his refutation in *Nature of Man* 2 of a certain type of monism.⁹¹ The refutation is straightforward: if such monisms were true, we could not feel

⁸⁸ This pattern is exemplified on numerous occasions throughout *MM*; and cf. *Loc.Aff.* VIII.146–7; the derivation of precise indications is difficult because of the difficulty in determining the precise *idiosunkrasia* of the patient: *MM* X.169, 181, 209–10; on ‘counter-indications’, see *MM* X.626, 661–6.

⁸⁹ This runs contrary to my earlier analysis: Hankinson 1991b: 202–6. Obviously much more needs to be said on these issues. I now think that, for Galen, *endeixis* in the technical sense refers principally to the inference from an understanding of the essential structure of a condition to the appropriate therapy for it; it differs from mere empirical ‘theorems’ in that it does so proceed, and hence its justification can be spelled out in logically compelling terms: ‘the patient is suffering from an excess of the hot and dry (unnatural *diathesis*); opposites cure opposites (*a priori* axiom); item *X* is (appropriately) cold and wet; hence the application of *X* is therapeutically indicated’ (cf. Barnes 1991: 99–101; there are literally dozens of cases of this form in *MM* alone). This is the sense in which it ‘proceeds from the nature of the matter’; and this is how the consequent (here with deontic force) can be ‘reflected in’ the antecedent. There are, however, some texts which cannot be fitted into this pattern, and suggest that at least occasionally Galen deployed *endeixis* in arguing to the internal structures; cf. e.g. *Temp.* I.573–6, where Galen talks of the ‘primary *endeixeis*’ of a good physical temperament, and at *Opt.Corp.Const.* IV.744–9, where he refers back to that discussion; cf. also *Ars* I.319–26, 331–3, 337–8, 341–2, 344–8, 350, etc. On the other hand, *MM* X.389 says that ‘the primary indications in every art are naturally known by all men’ (cf. 909), these ‘primary indications’ simply being the general understanding of the overall objective (*skopos*) of the art: we all know that to build a house you need to construct the parts in the right order; but we don’t all know how to do it: see also n. 95 below.

⁹⁰ We cannot underestimate Galen’s commitment to the importance of general physical principles; it is in their disregard of them that he locates one of the principle failings of his Rationalist contemporaries: see e.g. *MM* X.111–12, 116, 122.

⁹¹ Construed by Galen as the sort of property monism common to atomists and ‘those who say that the elements are least and unattached and partless (416)’, who certainly include Asclepiades: see De Lacy 1996: 164–6.

pain; but we do, so they aren't (420): 'Hippocrates' answer . . . will be that man would never feel pain if his nature were thus' (419). The argument form is that of the Stoics' second indemonstrable ('if P then Q; not-Q not-P'); and it also has (although Galen does not say so) the form of an indicative sign-inference, taking us from something evident to the hidden facts of the matter responsible for it. The connection between antecedent and consequent is thus more than merely material: it is formal in nature.

In fact, the ability to feel pain requires both that genuine change takes place, and that it does so in something capable of sensation; 'and these men's [sc. the monists'] elements fulfil neither requirement' (420). Although Galen thinks that the point will already be sufficiently clear 'to those trained in logical theory' (420), he helpfully spells out the case further for the benefit of those who are not. Consider a pin-prick: 'the animal will of course feel pain, and the needle will be in contact with one or more atoms' (420). However, it cannot divide, or affect the atoms themselves, either individually or collectively. So sensation cannot reside in the atoms as such (420–2). In fact, sensation presupposes genuine affectability; but genuine affectability itself entails the existence of distinct things, namely the states of the affected part before and after the affection. So Hippocrates was right: there is more than one element, and the elements are themselves affectible (426: this latter consideration of course rules out a physics such as that of Empedocles). There are fairly obvious frailties in those inferences, at least if they are supposed to yield anything more than very general conceptual truths; but we can ignore them for the present.

Galen now turns to the question of the nature of the elements so determined:

By division there are found to be four positions in total: first, (1a) from things both insentient and unaffected and second (1b) from sentient and unaffected, of which the common factor was 'from things unaffected', so having shown that to be impossible we rejected both. Two were left: one (2a) which constructed the perceiving body from primary elements that were both sentient and affected, the second (2b) from affected but insentient elements. (*Hipp.Elem.* I.427).

The self-consciously logical structure of this, as well as its logical vocabulary, is evident. We discover the range of possibilities 'by division'; then we see which of them can be ruled out. Preliminary analysis shows that the first two positions each fall to the same objection, since they share a common objectionable factor. That leaves two still open. The process so far could easily have been modelled using Stoic logical forms (the structure, prior to further resolution, would be 'either the first, or the second, or the third or

the fourth; but neither the first nor the second; so either the third or the fourth'; a complex fifth indemonstrable).⁹² In fact, he says 'you will find, if you attend carefully to it, that both are possible' (427). The reason is, he says, that even if the primary elements are insentient, as long as they are affectible, sentience may emerge from a suitable aggregation of them (428). This in turn he argues for on the basis of the claim that, while certain general properties of wholes are indeed reducible to the properties of their parts (hardness, colour, etc.), other properties can emerge, specifically if not generically; thus a house is composed of things which individually have shape, and yet the shape of the whole can be different from the shape of any of its parts (429–30). Similarly, it is possible that sentience emerges when insentient elements are mixed (in a genuine way), although not if they are simply juxtaposed (430–1; here again the argument might be thought to be missing something). The key requirement is that elements be not impassive; but as long as alteration is allowed them, sentience may emerge (431–2), along with the rest of the cognitive repertoire (432–4).⁹³

So Galen is left with a disjunctive conclusion, the disjunction of options 2a and 2b above; and as far as I know, he never chooses between them (he does point out that it's obvious that some elements are not sentient, since some composites are not: 432). There is a good reason for this, or rather two good reasons. First, it is not demonstrable which of them is correct; but second, it does not matter which of them is. The two reasons are linked. For if it mattered, then it would do so by making a discernible difference to the way in which physiology, and hence therapy, should be constructed; but then the question will be capable of an empirical resolution. Conversely, if it is incapable of such a resolution, then it will make no difference. In this case, all we need to know is that the elements, whatever they are, are affectible, and that they at least dispose of the fundamental qualities of hot, cold, wet and dry (how we get to them, of course, is another, long story, largely told in *Temp.*), even if the precise relation of element to quality is more difficult to determine.⁹⁴ For armed with this knowledge, we will know what to treat (the imbalances of hot, cold, wet and dry), and also,

⁹² The standard form of the fifth Indemonstrable is: P or Q; not-P ⊢ Q; there are technical problems involving the reduction of complex argument patterns to the basic indemonstrables by way of the Stoics' metatheorematic *themata*; but they need not bother us here. For a crisp account of Stoic logic, see Bobzien and Mignucci 1999.

⁹³ The argument is reprised at 483–8.

⁹⁴ At *Hipp.Elem.* I.460–5, Galen amusingly recalls ('in my nineteenth year') subjecting a teacher of his to a Socratic inquiry as to the meaning of Athenaeus's doctrine of the elements: when he talks of 'hot' and 'cold', is he merely predicating the terms of bodies, or do they refer to (elemental) bodies themselves? The inadequacies of his teacher's response point up the intrinsic difficulty of the question.

at least in general terms, *how* to treat them, since it is an a priori truth that opposites cure opposites (cf. e.g. *MM* X.100, 103–4, 116, 120, 178, 650, 739).⁹⁵

Similarly unimportant for practical purposes is the resolution of the question of whether the elements themselves, or only their qualities, are involved in the mixtures (*Hipp.Elem.* I.489–91: he does hold the latter view to be ‘safer’; cf. *PHP* V.762–3). Although he regularly owns himself at a loss regarding the substance of the soul, the resolution of that question too is unimportant for therapeutic purposes (*PHP* V.793–4). What matters is that we know the locations of its various parts and the intermediaries by which it functions (the nervous and vascular systems); and this is susceptible of demonstration (or at least plausible inference)⁹⁶ on the basis of anatomical investigation and experiment.⁹⁷ Whether, for instance, psychic pneuma is the actual substance of the rational soul, or merely the vehicle for its transmission does not matter, as long as we are convinced by demonstrative argument that it has its seat in the brain, and that it derives its information from, and ramifies its effects by way of, the nervous system.⁹⁸

One question remains: how can Galen be so sure that he established even the limited conclusions of his physics, namely that in some sense it must involve the four qualities and their interactions? The answer, again, is by elimination (or if you prefer, by an application of the fifth indemonstrable). At *Nat.Fac.* II.27, he writes:

⁹⁵ Argument patterns of this sort are ubiquitous throughout *MM* which is, after all, concerned with the discernment of treatments; to get there, the physician must move from the ‘primary objective (*skopos*)’ which is simply that of effecting a cure by removing or counteracting what is responsible for the malady, a *skopos* available even to the layman, to the *skopoi* particularly determined: *What* in fact does the distemper consist in? *How* best is it to be countered or removed and the original balance restored? Here is where logic and physics come in – and where the ‘method’ of the Methodists (and others) is hopelessly inadequate: see e.g. *MM* X.388–91; and see n. 89 above.

⁹⁶ This distinction is hugely important of course; in the specific case of the hepatic location of the desiderative soul, Galen allows that his arguments fall short of demonstrative status: *PHP* V.519–21; and see Hankinson 1991c: 223–31; on plausible argument in general in Galen, see Debru 1991.

⁹⁷ For the importance of such experimental knowledge in Galen, see Hankinson 1991c, 1994a; Debru 1991.

⁹⁸ On pneuma and the soul, see *PHP* V.605–6, 609; *SMT* XI.731; and see Hankinson 2006; 2009. For the brain as the source of the nervous system, see *PHP* V.211–84; and cf. *Loc.Aff.* VIII.18–19: it is something which is certainly known (cf. *PHP* V.793). It is worth noting at this point that, for Galen, medicine is not properly speaking a stochastic *technē*, one, that is, whose outcomes are uncertain because of uncertainties in its theoretical structure. Rather, medical practice is stochastic in application because of the difficulties involved in estimating precisely the degree of any patient’s distemper: *Cur.Rat.Ven.Sect.* XI.285; *Temp.* I.608–9; *MM* X.183, 650–1 (see Harig 1974). The spurious *de Optima Secta* ([*Opt.Sect.*] I.114) no doubt reproduces Galen’s own view: the theorems themselves are not conjectural. For the notion of *stochasmos* as it applies in practical medicine, cf. e.g. *MM* X.82, 653; a technical *stochasmos* is halfway between certain knowledge and total ignorance: *Loc.Aff.* VIII.14. On conjectural arts, see Ierodiakonou 1999, Allen 1994; Boudon-Millot 2003b.

In generic terms, of those who understand what they're talking about and who are aware of the logical consequences of what they say and stick to them, there have arisen two schools in philosophy and physics of those who have made positive claims about nature,

namely the adherents of a continuous physics involving real generation and destruction on the one hand, and the avatars of a discontinuous atomism on the other. And, it becomes apparent that, again at the generic level, there are *only* these two possibilities (indeed they mirror those of *Hipp.Elem.*). So if we can show one of them to be empirically inadequate, as Galen thinks that he can in the case of all varieties of genuine atomism (and again on grounds similar to, albeit distinct from, those in *Hipp.Elem.*: if the atomists are right, the only real cognitive faculties are those of sensation and memory, but this makes moral appraisal worthless, and also renders natural theology inert, both of which results he thinks absurd: *Nat.Fac.* II.28–30), then some version of continuous physics must be true, if any physics is. As far as it goes that argument is surely valid. It may even be, in a limited sense, sound. Of course neither it nor its congeners can do all Galen asks of them.⁹⁹ But, if supplemented by the Timaeian teleology of *UP*, the reasonableness – at the time – of which I have argued for elsewhere,¹⁰⁰ they can do a lot.

It is worth finally exploring the ban on 'generic emergence' central to the refutation of atomism in *Hipp.Elem.* a little further. In the case of the house, it amounts to saying that anything which has shape must be made up of parts which themselves have shape, although not necessarily the *same*

⁹⁹ Why *four* fundamental elements or qualities? Why not two, or twelve? Galen's answer to that is partly empirical, although he denies Athenaeus's claim that they 'are clearly visible and require no proof' (*Hipp.Elem.* I.457–8); certainly we determine what is phenomenally hot, etc., by touch (*Temp.* I.588–98), although 'in the case of wet and dry reason must be employed as well' (598). But why not then make, e.g., soft and hard, which are certainly phenomenal, basic? We are never clearly told – but it is natural to suppose that the answer would at least involve the thought that we can induce hardness or softness in things by applying heat and cold, and indeed moisture and dryness (see Aristotle, *Mete.* 4.1–12, esp. 6–7); and at *Temp.* I.563–5, Galen certainly seeks to explain the relative hardness and softness of various bodily tissues in terms of them (cf. 566–71, 576, 598–9, 604–5, 610–11). But although *Temp.* opens with the claim that the fact 'animals' bodies are a mixture of hot, cold, wet, and dry . . . was adequately demonstrated . . . by the best philosophers and doctors; and there is a work of mine covering the probable facts of the matter (*eikota*), . . . *Elements according to Hippocrates* (I.509), and while, after the initial proof that any sentient body must be constructed of affectible elements, he writes 'what their complete number is is as yet unclear, and so we must inquire into this next' (*Hipp.Elem.* I.426), he never really does so; and at *Ord.Lib.Prop.* XIX.55, he admits that the treatment of *Hipp.Elem.* was incomplete ('the actual demonstration regarding the elements does not appear in full'); and refers the reader to Book 13 of *Dem.*, and Books 5 and 6 of *The Opinions of Asclepiades*. It is of course a pity that neither of these works survives. See further Hankinson 2008a.

¹⁰⁰ Hankinson 1988; 1989.

shapes. There is an obvious commonsensical quality to that contention. Its plausibility turns on the conceptual difficulty of supposing that the parts of something that has a shape could themselves simply be shapeless: for the shape of the whole appears obviously to be a function of the aggregate of the shape of its parts (plus some further conditions). But the crucial question is: how far down does the analysis go? Quarks have no shape; and 'common sense' has proven a notoriously bad guide to physical truth, at least at the micro-level, the weirdness of which strains metaphor to breaking point.¹⁰¹ This was not, however, obvious in Galen's time, as evidenced by what the atomists choose as their basic atomic qualities: size, shape, resistance, solidity, motion and (perhaps) weight – all ordinary properties of ordinary medium-sized objects. The idea of there being a fundamental world of objects with properties radically distinct from any of those manifest at the perceptual level would have struck all of the ancients, as well as seventeenth-century corpuscularians, as absurd.¹⁰² In that sense, Galen's arguments are well directed. Although for precisely that reason they are, in the end, undemonstrative. There are more (and stranger) things in heaven and earth than were dreamt of in his philosophy; and that is why no empirically useful disjunction of possible underlying explanations can ever be logically exhaustive.

Coda: Galen and the World of Knowledge

This discussion has so far been largely concerned with Galen and knowledge of the world, rather than his world of knowledge. I finish by offering a very brief account of how these views relate, or fail to relate, to the larger socio-cultural context in which he found himself.

Galen is concerned to defend an elite version of medicine. His own medical and philosophical education was, as he tells us, long – and no doubt (although he does not tell us this) expensive, taking place not only

¹⁰¹ It will of course not do at this point to insist that it be definitional of the notion of a part in these contexts that if A is a part of B in respect of some essential (or necessary) property P possessed by B, then A must have P (thereby definitionally ruling out the shapeless as being parts of the intrinsically shaped), since the notion of 'part' in play here must be a causal notion: it is (partly) *in virtue* of the existence of A that B exists (and has P) – and that condition surely applies to quarks and their relation to the shaped bodies ultimately (let us suppose) composed of them.

¹⁰² Again, it is worth comparing Descartes' philosophy of science here: all the 'models' he introduces by way of physical hypotheses (or at least heuristics) invoke the observable behaviours of macroscopic objects (rigid rods, wine in vats, tennis balls: *Optics* 1–2, VI.83–103 AT, = Cottingham *et al.* 1985: 152–63); cf. Clarke 1982: ch. 5; Garber 1993.

in Pergamum but also in Smyrna, Corinth and Alexandria.¹⁰³ In Rome, where he arrived for his first visit at the age of 34 in AD 163, and where he settled permanently six years later, he moved in the highest social circles, becoming Imperial physician, and being charged, during the Emperor's absence, with the care of his young son Commodus (*Lib.Prop.* XIX.19: history may judge his success in this enterprise rather harshly). The bulk of the cures that he relates in *On Prognosis* are performed on members of Rome's upper crust (or on their household). His success is at least as much social as it is medical – and he obviously revels in this fact, how he, an unknown young man from the provinces (albeit from the upper class of one of the richest cities of Asia), rose by his own talent and persuasiveness to the highest pinnacle of his profession.¹⁰⁴ As he says in *Loc.Aff.* VIII.144, it was because he refused to become a slavish adherent to any one school, but rather learned what was best from all of them, that he became known to the rich and famous of Rome, indeed to the Emperors themselves. Also he tells in *Praen.* and elsewhere, his unparalleled success made him the object of envy and personal attack from other doctors jealous of his encroachment upon their prerogatives and privileges. Indeed, he entitled a work of autobiography (now lost) *On Slander* (*Lib.Prop.* XIX.46).

His problem, he tells us (*Praen.* XIV.605–6), was naivety: as a provincial he simply did not understand the decadence of the great city, where people were more concerned with pleasure than with virtue, with reputation rather than substance, with the semblance of ability rather than with its reality (603–4). The metropolitan world is full of flatterers and sycophants, people eager to insinuate themselves with the rich and powerful by any means and to do down those few honest men who simply desire to make a difference to the world (599–600; cf. *MM* X.1–20, for a similar, jaundiced account of the degeneracy of the times). Things are so bad that Quintus, 'the best doctor of his time', was driven into exile on a trumped-up charge of murdering his patients (*Praen.* XIV.603). Thus Galen presents himself as having constantly to fight to show that his prognoses are the most reliable, his treatments the most effective; and he does this in the context of a

¹⁰³ See *Aff.Dig.* V.41–2; *Lib.Prop.* XIX.16–17, 39–40; *Ord.Lib.Prop.* XIX.59. Galen inherited money and property on his father's death in 149; and while he attributes the survival of his fortune to his own modest lifestyle and lack of acquisitiveness (*Aff.Dig.* V.47–8), there is no doubt that he was very comfortably off.

¹⁰⁴ The details of his rise are documented in *Praen.*; Nutton's immensely learned commentary supplies an invaluable documentary background to it (Nutton 1979).

thoroughly agonistic medical culture, in which, if Galen is to be trusted (and his picture is confirmed in its general outlines by other sources), competing medical paradigms literally fought it out at the patient's bedside. The degenerates gain their reputation among patients, Galen says, because of the pleasantness of their 'cures', and the congeniality of their company to others equally degenerate;¹⁰⁵ congruently, they gain their cachet among medical students for the simplicity of their medical systems. Times without number, Galen castigates the Methodists (the principal, if by no means the only, objects of his bile) for peddling a hopelessly simplistic (indeed logically incoherent) 'system' to those eager to be duped and to dupe others in their turn. Methodists offer to teach the whole of the art in six months; it might as well be six hours or even six minutes (*MM* X.781, 927; *SI* I.83).

Galen is equally harsh on the failings of contemporary philosophy. His emphasis on the necessary utility and practicality of any worthwhile study inevitably puts him at odds not only with contemporary logical theorists (see above p. 207), but also with the practitioners of what he takes to be hopelessly speculative metaphysics, regarding the structure of the universe and the nature of god and of the soul (see above p. 228). This is, I think, the true measure of Galen's originality: he refuses to have anything at all to do with the issues that divide the schools, while still insisting, against the sceptics, that useful knowledge can be won in practical fields, and that it can be based upon more than merely empirical experience. It is this which makes his eclecticism more than that of the average contemporary Middle Platonist synthesis.¹⁰⁶ He is dismissive, both in medicine and philosophy, of mere logic-chopping, which he routinely derides as Sophistry; yet he insists that clarity, precision and consistency are essential logico-linguistic virtues necessary for any seriously founded practice. Finally, he is utterly contemptuous of the anti-theoretical stance of the Cynics. Indeed, in their seductive offering of a cut-price, easy route to virtue, they are the philosophical equivalent of the Methodists (*Pecc. Dig.* V.71).

This equivalence is underlined in what Barnes¹⁰⁷ rightly describes as 'the most barbed and brilliant of many digressions' in *MM* X.909–16. Galen tells of how he tried to prevent the Methodist Attalus from prescribing a disastrous course of treatment for his patient, the ailing Cynic philosopher

¹⁰⁵ For pleasant cures, see *MM* X.4; cf. Pliny, *Nat. Hist.* 26.7.12–30; for orgiastic conviviality, *MM* X.3–5; and cf. *On Recognising the Best Physician* (*Opt. Med. Cogn.*), 1.3–11, = *CMG* Supp.Or IV, 41.8–47.5 Iskandar.

¹⁰⁶ On this, see Frede 1981, esp. 66–72. ¹⁰⁷ Barnes 1991: 59–60.

Theagenes, by lecturing him on the importance of applying drugs of a mixed temperament to the liver, rather than the simple, Methodist, relaxant plaster of bread and honey favoured by Attalus. Galen's advice is long, detailed and precise – in fact, it is incomplete, since 'Attalus cut my speech short, saying; "if I had not had so much respect for you I would not have stood for any of this"' (912). Attalus's impatience is fuelled by his doctrine: to him, Galen's recommendations are the residue of an outmoded and discredited medical tradition: "Leave Theagenes in my care, for three days or so and you will see him fully recovered". "But", I said "what if small, sticky beads of sweat suddenly appear, and then he dies?"' Attalus merely laughed, and left, leaving Galen no opportunity to finish his disquisition (although he thoughtfully supplies it for the benefit of the reader – it takes up more than a page: 912–14). Attalus redoubles his treatments, telling all and sundry that Theagenes is on the mend – but then, as Galen foretold, he suddenly died. Not knowing this, Attalus triumphantly arrived at his house with a group of friends, expecting to be able to show them a restored Theagenes about to take a bath, and marched right up to the bedside, where various associates of the dead philosopher were engaged in washing the corpse, not realising the true state of affairs until the last moment since, as befits Cynics and philosophers, none of the associates were uttering any kind of lament. Thus, Galen drily remarks, Attalus 'distinguished himself in front of a large crowd by displaying his patient relieved of his inflammation within four days, as he had promised' (915).

The anecdote is pointed, and self-serving, as most of Galen's stories are. It brings out in sharp relief the important features of Galen's image of himself and of his practice in relation to his contemporaries. Attalus is successful, in spite of his incompetence; but his success is due to his ability at social-climbing, and his deluded confidence in his own 'unmethodical Method', as Galen regularly derides it. He is a representative of the upstart, new school of medical practitioner (although in truth Methodism had been around for at least a century by this time), with a brash disregard for the fruits of ancient learning. It is not hard to read between the lines of this and other stories to see how Galen perceives them as a social as well as a professional threat, as practitioners of elite medicines generally will when confronted by more demotic alternatives. Galen has expended many years and much money on obtaining the knowledge he has – and he has no intention of ceding the position due to him to such *arrivistes*. All of this takes place against the background of the Second Sophistic culture of

public display, in which Galen himself was an enthusiastic participant.¹⁰⁸ Indeed, on his own account it is as much the success of his bravura public performances in anatomy and vivisection, which he recounts with relish in a number of places,¹⁰⁹ as his brilliance at competitive diagnosis, prognosis and treatment, which ensured his meteoric rise in Rome.

Galen defines himself against the background of the world of degenerate knowledge claims in which he has to make his way; but in a very clear sense he is part of, and participant in, that same world. Galen's self-presentation is highly coloured and evidently self-serving; he is the adored hero of his own narrative. Also there are clear tensions in the picture he presents – on the one hand, the dissipation of the times accounts for the success of the charlatans; on the other, his own, meritorious, success is so great as to provoke ruinous envy. It is a temptation (one which many have succumbed to) to write him off as merely a self-propagandist and to dismiss his claims as mere rhetoric. That he does write rhetorically, and frequently with much skill, cannot be doubted but the mere fact that a text is rhetorical does not entail that it contains no truth. Whatever else may be the case, Galen manages to outline, and defend, a theoretical position of some strength, as well as a methodology of great power and plausibility. He reacts against his world; he is part of it too. But equally he is right to see himself as being, in important respects, disjunct from it.

¹⁰⁸ At least in his early years: he gave them, up, so he says, when he returned to Rome in AD 169, to devote himself to healing the sick: *Lib.Prop.* XIX.15. On Galen and the Second Sophistic, see Kollesch 1981a; von Staden 1997b.

¹⁰⁹ See especially *Anatomical Procedures (AA)* II.667–75; cf. *AA* IX.12–13, 21–9 Simon; (the latter books of *AA* survive only in Arabic, and are edited in Simon 1906; translation in Duckworth 1962). For discussions of these demonstrations, and of Galen's anatomy in general, see Rocca 2003; 2006.

*Galen and Middle Platonism***Riccardo Chiaradonna*

In Galen's mind, Plato is certainly the highest philosophical authority.¹ While this is not a disputed fact, Galen's own philosophical allegiance is an altogether different matter: can he be reckoned among the (Middle) Platonists of his time?² The answers provided to this question vary from positive to negative and to anywhere in between.³ Galen was no doubt well acquainted with the kind of Platonism taught in the schools: when he was fourteen years old, his father Nikon had him attend lectures by Stoic, Platonic, Epicurean and Peripatetic teachers. Galen never mentions their names, but in the case of three of these teachers he does mention the names of their masters (the Stoic Philopator, the Platonist Gaius and the Peripatetic Aspasius).⁴ However, Platonists (and, more generally, scholastic philosophers) did not arouse his admiration: Galen comments disparagingly on their lack of rigour and on their futile, irreconcilable disputes.⁵ Such divergences would have led Galen to embrace Pyrrhonian scepticism,

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¹ For Galen's reverence for Plato see *On the Doctrines of Hippocrates and Plato (PHP)* 9.9 = V.792; *On the Function of Parts (UP)* 16.1 = IV.266 = Helmreich 1907–9: II.377. Cf. De Lacy 1972; Frede 2003: 75.

² I employ 'Middle Platonism' as a convenient designation for the kind of Platonism developed between the first century BC and the second century AD. This designation, while commonly employed from Praechter onwards, was discussed critically by Frede 1987b. However, see the defence of it by Donini 1990. On the relationship between Middle Platonism and Aristotle, see now Karamanolis 2006.

³ Galen is sometimes presented as a committed Middle Platonist. See, for example, Menn 2003: Galen 'is surely a middle Platonist'. Galen's relation to Middle Platonism has been discussed in depth by Donini 1980; 1992; Frede 2003 closely follows Donini's conclusions. In short, both Donini and Frede regard Platonism (and not Aristotelianism, *contra* Moraux 1984: 771–3) as the most important component of Galen's philosophical background, but both deny that Galen can straightforwardly be regarded as a Middle Platonist. A more radical view is suggested by Barnes 1991; Hankinson 1992b; Barnes 1997b, who maintain that Platonism is nothing more than a part (not necessarily the most important part) of Galen's creative and original eclecticism.

⁴ See *The Passions of the Soul (Aff. Dig.)* V.41–2.

⁵ See e.g. *The Errors of the Souls (Pecc. Dig.)* V.91–2.

had he not been 'saved' by geometry and its cognate disciplines.⁶ Galen presents geometry, not speculative philosophy, as his model for demonstrative science.⁷

These are all well-known facts, but are not enough to solve the problem of Galen's Platonism. Galen's contemptuous remarks about contemporary philosophers should not, perhaps, be given too much weight.⁸ Scholars have argued that Galen depends not only on Plato, but also on the Platonism of his time: this is shown (*inter alia*) by his conception of god and providence, by his ethics and by his epistemology.⁹ As Pierluigi Donini remarks, Middle Platonism is 'the principal component' of Galen's 'philosophical background'.¹⁰

Galen, however, does not count himself among Platonists, nor was he regarded as a Platonist by the later tradition. Galen parts company with the Platonists of his time on several crucial issues.¹¹ A balanced assessment of Galen's philosophical position ought to consider both his Middle Platonic background and his own distinctive approach. In this discussion I aim to show that Galen should definitely *not* be regarded as a 'Middle Platonist', despite similarities between his thought and the contemporary Platonic tradition. I will focus on two main topics: (1) Galen's attitude to the problem of the genesis of the world; and (2) Galen's epistemology and his views on the limits of knowledge.

THE GENESIS OF THE WORLD

Timaeus 28b provides what is probably the most notorious predicament in ancient Platonic exegesis.¹² The problem originated from the fact that two alternative interpretations of Plato's account of the genesis of the world were defended. (1) Several Platonists from Xenocrates¹³ onwards (and all Neoplatonists after Plotinus)¹⁴ conceived the world as eternal; consequently, they took Plato's account of the generation of the cosmos to

⁶ See *On My Own Books* (*Lib. Prop.*) XIX.40. ⁷ See Lloyd 2005.

⁸ Galen's assessment of his contemporary physicians and philosophers has been regarded as unreliable (or at least not entirely reliable): Donini 1988a: 97 n. 22.

⁹ See esp. Donini 1980 and 1992. ¹⁰ Donini 1980: 333.

¹¹ In *On the Formation of the Foetus* (*Foet. Form.*) IV.700–1 Galen rejects the view of one of his Platonic teachers about the role of the World Soul in the formation of the foetus of animals. See the extensive discussion of this passage in Donini 1980: 349–53. Furthermore, Galen criticises later Platonists for distorting the doctrines of the master: *PHP* 9.9 = V.795.

¹² See Baltes 1976; Dörrie and Baltes 1998: 84–180 (§ 136–45) and 373–535.

¹³ See fr. 54 Heinze = 153–8 Isnardi Parente.

¹⁴ See Plotinus, *Enn.* 3.7(45).6.50–4 and 4.3(27).9.12–19. On Plotinus' position see Baltes 1976: 123–36 and Zambon 2002: 86.

be a mere allegorical reference to the causal dependence of the world on the demiurge. (2) Platonists such as Plutarch¹⁵ and Atticus,¹⁶ on the other hand, conceived of the generation of the world as a real, temporal event (κατὰ χρόνον), thus defending a literal reading of the account given in the *Timaeus*.¹⁷

In his *Compendium Timaei* Galen clearly sides with Plutarch and Atticus, and proposes a literal interpretation of Plato's words.¹⁸ Galen's *Compendium Timaei* is a summary (σύνοψις)¹⁹ of Plato's dialogue that follows Atticus' exegesis closely.²⁰ Galen, presumably, regarded Atticus' reading as accurate from a philological perspective: Plato's words are simply too explicit to allow an allegorical interpretation.²¹ This, however, does not imply that Galen defended such views *in propria persona*. As a matter of fact, Galen often mentions the problem of knowing whether the world was created or not among the questions of speculative philosophy that exceed the limits of human knowledge and do not admit any demonstrative solution.²² Galen's late work *On my Own Opinions* opens with the following statement:

Thus I say that I do not know whether the universe is created and whether there is anything outside (the universe) or not. And since I say that I have no knowledge of these things, then it is obvious that I have no knowledge about the creator of everything in the universe, whether it is corporeal or incorporeal and where it is located . . .²³

According to Galen, questions such as these are both impossible to answer and useless for scientific and moral progress.²⁴ Galen points out that experience and clear sense perception cannot act as guides in the resolution of these disputed points:²⁵ no certainty can be attained in the matter, and the proposed arguments only attain – at most – plausibility (πιθανόν).²⁶

¹⁵ See Plut. *An.Procr.* 1013E–F. See Ferrari 2002: 236–8. ¹⁶ See Atticus, fr. 4 and 19 des Places.

¹⁷ It is notorious that the literal interpretation is endorsed by Aristotle in his criticism of Plato's cosmology: Arist. *Cael.* 1.10.279b17–21; 279b32–280a10; 280a29–32.

¹⁸ See Galen, *Compendium Timaei Platonis*, 2.11–13, Kraus and Walzer 1951: 39. See Baltes 1976: 63.

¹⁹ See *Lib.Prop.* XIX.46.

²⁰ See also 4.1–13, Kraus and Walzer 1951: 1–13 on pre-cosmic motion. On this passage see Dörrie and Baltes 2002: 88–91 (§ 162.2) and 309–12.

²¹ Dörrie and Baltes 2002: 312; Festugière 1952: 99–105.

²² See e.g. *PHP* 9.6 = V.766; 9.7 = V.780; *Pecc.Dig.* V.67.

²³ *Prop.Plac.* 2.1 = *CMG* V.3.2, 56.12–20. I quote Vivian Nutton's English translation of the Arabo-Latin version. See Nutton 1999: 57. The Greek text of *Prop.Plac.* has recently been rediscovered (MS. Ulatadon 14): see the edition of Boudon-Millot and Pietrobelli 2005. The lines quoted above correspond to 172.31–5 Boudon-Pietrobelli.

²⁴ See Vegetti 1986: 234–6. ²⁵ *PHP* 9.6 = V.766.

²⁶ *PHP* 9.9 = V.795. The antithesis between plausibility and truth occurs several times in Galen: cf. the list of references in De Lacy 1977–84: 623.

Galen is certainly not agnostic concerning the existence of a demiurgic cause (see below); but he maintains that the substance of the demiurge and the way in which the demiurge actually exerts his causality escape our understanding and cannot be comprehended by clear cognition.²⁷ It may then reasonably be concluded that, according to Galen, the problem of the generation of the world and the issue of the substance of god share the same indeterminable status. It is both certain and evident that our world is causally dependent on a divine demiurgic cause, but it is impossible to establish whether this causal relationship had a beginning in time or not. To sum up: Galen was well acquainted with the Middle Platonist exegesis of the *Timaeus*, but did not take part in Middle Platonist debates on cosmogony.

These conclusions require further scrutiny. Polemical arguments against anti-teleological and mechanistic positions are commonplace in Galen's writings.²⁸ Galen points out constantly that positive, unquestionable evidence exists for a natural order, which cannot but depend on a divine demiurge; as a matter of fact, 'nature' and 'demiurge' are often interchangeable terms in Galen.²⁹ He regards the study of the function of bodily parts as the true praise of god,³⁰ since the observation of natural phenomena unquestionably points to a provident demiurge: no other explanation is possible. Galen's teleology is based on a demiurgic cause which directs the world consciously; furthermore, at times Galen suggests that god's activities extend to individual human beings.³¹ His teleology cannot, then, be regarded (at least straightforwardly) as 'Peripatetic';³² rather, Galen's notion of a natural order points to a causal scheme in which god (whatever his substance may be) acts as an artisan. The influence of Plato's *Timaeus* is prominent.

Galen's agnosticism, then, does not extend to providence. While cosmogony both exceeds knowledge and is useless, as it does not contribute in any way to ethics or to medical science, the question of whether the world is governed by a divine demiurge or not is both accessible to knowledge

²⁷ See Frede 2003: 79.

²⁸ E.g. *UP* 11.8 = III.874 = Helmreich 1907–9: II.135–6; 17.2 = IV.364–5 = Helmreich 1907–9: II.450–1. See Vegetti 1999a: 384–9.

²⁹ Kovačić 2001: 210–47. On Galen's defence of directed teleology see Hankinson 1989.

³⁰ *UP* 3.10 = III.237–8 = Helmreich 1907–9: I.174; 17.3 = IV.365–6 = Helmreich 1907–9: II.451. See Frede 2003: 102.

³¹ Donini 1992: 3496 n. 64; Frede 2003: 98.

³² The difference between Aristotle's and Galen's teleology is brought out clearly by Vegetti in Garofalo and Vegetti 1978: 37–41; see also Hankinson 1989: 211–18. It is worth noting that Alexander of Aphrodisias points out that nature does not act by deliberation or choice (*Alex. Aphr. Prov.* 79.1–5 Ruland; for a similar view see also Plot. *Enn.* 6.7(38).1.28–57). Galen, instead, maintains throughout *UP* that nature deliberately chooses for the best. See Hankinson 1989: 216.

and extremely relevant to ethics and medicine: 'The truth is that while it is useless to ask whether the universe had a beginning or not, this is not the case with an inquiry about divine providence.'³³ Galen's attitude to Plato's *Timaeus*, then, is selective³⁴ and his position certainly shows a remarkable independence from Middle Platonic debates. While cosmogony and demiurgic causality are complementary parts of the Middle Platonist exegesis of Plato, Galen carefully distinguishes between the two issues: on the problem of world generation he takes no sides, but makes the notion of demiurgic causality a crucial part of his account of nature. Galen avoids an overt conflict with the metaphysical developments of the *Timaeus* by giving full weight to Plato's qualification of his cosmology as a 'likely' account (*Tim.* 29c–d).³⁵

Significantly, Galen's agnosticism leads him to doubt both the hypothesis of temporal generation and that of the eternity of the world. Galen not only refrains from 'Platonist' speculative cosmogony, but also criticises any attempt to demonstrate that the world is eternal and that it did *not* come into being. Galen's polemical target here is Aristotle's criticism of Plato's *Timaeus* in *Cael.* 1.10–12.³⁶ In his work *On the Eternity of the World Against Proclus* (599.22–601.16 Rabe), John Philoponus provides important evidence from the fourth book of Galen's lost treatise *On Demonstration* (*DD*).³⁷ This text and the short reference to *DD* 4 in Galen's treatise *On Marasmus* (*Marc.* VII.671) are of immense interest for the definition of Galen's philosophical position. I will limit myself here to a brief summary. In *Cael.* 1.10.279b17–21 Aristotle points out that the claim, 'everything which comes into being passes away', is a manifest truth and his criticism of Plato's cosmogony in the *Timaeus* is notoriously based on this claim (*Cael.* 1.10.280a28–32). Apparently, Galen did not mention Aristotle explicitly in *DD* 4, but he does clearly refer to Aristotle's position.³⁸ Galen

³³ *PHP* 9.7 = V.780, trans. De Lacy 1978–84: 589.

³⁴ On Galen's attitude to the *Timaeus* cf. Ferrari 1998 and Vegetti 2000.

³⁵ *PHP* 9.9 = V.791–2; see also Tieleman 2005: 130–1. ³⁶ See Baltes 1976: 64–5.

³⁷ On Galen's *DD* see the pioneering (and still invaluable) studies by Müller 1895/7 and Jaeger 1914. More recently, see Barnes 1991. Garofalo summarises the possible content of this work, in Garofalo and Vegetti 1978: 1084–9. John Philoponus was well acquainted with Galen's writings: see Strohmaier 2003; van der Eijk 2005a: 133–4.

³⁸ Aristotle is not mentioned either at *Marc.* VII.671 or in the Philoponus passage. Such an attitude would not be unparalleled in Galen: at *UP* 4.15 = III.315 = Helmreich 1907–9: I.231, Erasistratus is condemned because he is unable to offer a teleological explanation of the spleen. Galen avoids mentioning Aristotle, who in the *De partibus animalium* had also renounced the possibility of providing such explanation. Cf. Vegetti 1999a: 386. See also the interesting remarks on Galen's polemical strategy in Tieleman 1996b: 55: 'Galen, then, is concerned with arguments rather than with adversaries. His argument is dialectical in the sense that he scrutinises available arguments with a view to finding and testing basic concepts and principles.'

maintains that the claim ‘everything which comes into being passes away’ is neither a scientific nor a necessary truth, but can at most be regarded as plausible (πιθάνον).³⁹ Galen begins his argument by distinguishing clearly between the two conceptual components included in the notion of ‘eternity’, that is, the absence of generation and the absence of corruption (*apud* Philop. *Aet.Mund.* 17.5.600.3–4). He regards as a necessary and manifest truth the claim that everything which did *not* come into being is also imperishable (17.5.600.10–17). This claim, however, does not entail that everything which is imperishable must also *not* have come into being. As Galen points out, something can have come into being and be perishable by its own nature, but nonetheless be preserved from destruction perpetually by an extrinsic demiurgic cause.⁴⁰ Galen explicitly refers to Plato’s *Timaeus* (41b) and *Politicus* (269d, 273e) in order to define the preserving action of the demiurge (*Aet.Mund.* 17.5.600.24–601.5).

It seems to me that Galen’s argument allows the following reconstruction. Everything which is perfectly simple and without affections (17.5.600.22–3) is, by its nature, not capable of passing away. Galen presents the (Platonic)⁴¹ claim that ‘everything which did not come into being is also imperishable’ as a truth that is certain and evident to reason (17.5.600.14–17). However, the converse principle ‘everything which does not perish also did not come into being’ does not hold. The necessity of this assertion is disproved by the hypothesis of a demiurgic cause which acts perpetually as a preserving demiurge. Such an *extrinsic* cause may perpetually prevent the natural capacity of perishing from realising itself: there is nothing inconceivable in this possibility.⁴² In short, Galen maintains that god cannot actualise a natural power which does not exist,⁴³ but that he can prevent any existing natural capacity from realising itself. Accordingly, no scientific proof can be provided that the world is eternal (that is, both ungenerated and not perishable). Galen points out that, while evidence from experience suggests that the cosmos does not change,⁴⁴ this cannot lead us to infer that the cosmos was never generated. In short, while Galen does not actually take a determinate position on cosmogony, he emphasises strongly

³⁹ *Marc.* VII.671: τὸ γεννητὸν πᾶν φθαρήσεται πάντως οὐτ’ ἐπιστημονικὴν οὐτ’ ἀναγκαίαν ἔχει τὴν ἀκολουθίαν, ἀλλ’ ἄχρι τοῦ πιθανοῦ προΐουσιν.

⁴⁰ Note also Galen’s remarkable example of a perpetually restored building, which escapes destruction in this way (17.5.601.5–16).

⁴¹ *Pl. Phaedr.* 245d. ⁴² *Contra Arist. Cael.* 2.1.284a27–35.

⁴³ This agrees very well with Galen’s famous polemics against the omnipotent God of Moses at *UP* 11.4 = III.905–6. Cf. Tieleman 2005: 132–8.

⁴⁴ As reported by Razi’s *Doubts against Galen*, in *DD IV* Galen referred to astronomical observation as a proof that cosmos does not change. Cf. Strohmaier 1998: 271.

that the hypothesis of the temporal generation of the world is not a priori inconceivable. Both this hypothesis and its negation share the same cognitive status, which allows no demonstration. At *PHP* 9.6 Galen explicitly contrasts this kind of insoluble issue with those of medicine:

But the case is not the same when a disagreement arises among physicians about the benefit or harm of remedies applied to bodies; physicians, at least, can judge by an empirical test which of them is helpful and which is harmful.⁴⁵

In Galen's mind, then, Aristotle's criticism of Plato's cosmogony is not cogent; it is not based on certain, evident truths. One should bear in mind that Galen conceives of reason and experience as the two sources of knowledge,⁴⁶ and that he points out that experience unquestionably speaks in favour of demiurgic causality.⁴⁷ It seems to me that the argument of *DD* 4 strengthens such a position, because it illustrates how it is impossible to argue rationally that our cosmos is eternal and does not need a demiurge. This is the main philosophical conclusion of Galen's discussion on the eternity of the world, in the light of which the specific issue of the temporal creation of the cosmos assumes a secondary importance.

Galen's discussion of *Cael.* I.10–12 in *DD* 4 finds a very interesting parallel in Atticus, who addresses his critique against both Aristotle and Aristotelising Platonists.⁴⁸ I cannot discuss here in detail the relation between Atticus and Galen on this issue. Despite the striking similarities of their arguments, their overall strategy is certainly different. Atticus presents a vehement defence of the real generation of the world, which is based on a literal reading of Plato's *Timaeus*, whereas Galen does not take a fixed position on this issue. Galen's strategy, instead, is determined by his distinctive conception of nature and knowledge and, as far as I am aware, his approach has no exact parallel in Middle Platonist debates. Galen's effort is twofold: first, he aims to provide a critical discussion of the rational notions and principles employed in natural philosophy; second, he aims to prove that no opposition exists between the correct use of reason and the evidence inferred from experience.

It can reasonably be assumed that Galen developed this epistemological (rather than merely 'logical') programme fully in his lost treatise *On Demonstration*. Here Galen presented a critical discussion of the key ideas

⁴⁵ *PHP* 9.6 = V.766–7, trans. De Lacy 1978–84: 579 slightly modified.

⁴⁶ *On the Method of Healing (MM)*, I.3 = X.29; 4.4 = X.272; 5.1 = X.306. See Frede 1987a: 290–1; Hankinson 1991a: 109–10.

⁴⁷ *UP* 17.1 = IV.346–62 = Helmreich 1907–9: II.437ff. Cf. Frede 2003: 108.

⁴⁸ See Atticus, fr. 4 des Places. Cf. Moraux 1984: 571–2 and Baltes 1976: 64.

that were employed in physics and cosmology, such as the notion of 'eternity' (*DD* 4), the definitions of place and time (*DD* 8),⁴⁹ and the notions of body and matter (*DD* 13).⁵⁰ He aims to show that these conceptions deserve a detailed scrutiny and should be broken down into their simple and evident 'components'. This kind of procedure prevents reason from reaching inappropriate conclusions. Galen's critical assessment of Aristotle's definition of time as 'number of motion' (*Phys.* 4.11.219b1–2) in *DD* 8⁵¹ is extremely instructive from this point of view, since Galen carefully differentiates the notion of time from the idea of measurement of natural motion.⁵² Galen criticises Aristotle's definition because it does not grasp the nature of time in itself, and mistakenly connects it to concomitant phenomena. Apparently, Galen maintains that time is not connected to spatial motion by its own nature, and that it is the object of a sort of 'primitive' evidence, which is self-revealing and has no need for definition.⁵³ As Themistius and Simplicius report in their commentaries *On Physics*, Galen pointed out that Aristotle, who aims to define time, actually provides nothing more than a tautological definition (*Pace Phys.* 4.11.218b17):

We must not align ourselves with Galen in his belief that time is separately defined through itself. For after fully listing numerous significations of 'before' and 'after', he says that none coincide with the definition [of time] except the one in respect of time, so that time is [defined as] 'the number of changes in respect of time.'⁵⁴

The anti-Aristotelian character of Galen's discussions is striking, and also somewhat surprising, given Galen's overall indebtedness towards Aristotle's biology and natural philosophy. Galen's admiration for Aristotle, however, did not prevent him from engaging in a detailed critical discussion of several Aristotelian doctrines (such as psychology and the theory of semen).⁵⁵ As scholars have observed, Galen's admiration for the 'ancients' does not entail uncritical reverence for the tradition.⁵⁶

It seems to me that this kind of a position is extremely difficult to classify as a 'Middle Platonic' approach to Aristotle – numerous and diverse

⁴⁹ Müller 1895/7: 467–71. ⁵⁰ Müller 1895/7: 471–5; Strohmaier 1998: 13.

⁵¹ Simplicius, *Phys.* 708.27–31 Diels; Themistius, *Phys.* 144.24–9 Schenkl; Simplicius, *Phys.* 718.13–18 Diels; Themistius, *Phys.* 149.4–7 Schenkl.

⁵² A similar polemical strategy is also employed by Plotinus in *Enn.* 3.7.[45].9. See Chiaradonna 2003.

⁵³ On Galen's treatment of time in *DD* 8 see Rashed 1995: 323–4. According to Galen, definitions are unnecessary for primitive and unanalysable terms: see Barnes 1991: 73–5.

⁵⁴ Themistius, *Phys.* 149.4–7 Schenkl, trans. Todd 2003: 60.

⁵⁵ Kovačić 2001: 58 describes Galen's attitude to Aristotle as 'ambivalent'.

⁵⁶ Vegetti 1986: 234–40; 2001. On Galen's exegetical methods see Mansfeld 1994: 148–76.

though these approaches are.⁵⁷ There is a sharp contrast, for instance, from Middle Platonist critics of Aristotle such as Nicostratus or Atticus.⁵⁸ While Galen's exegesis of the *Timaeus* certainly owes something to Atticus, Galen's discussion of Aristotle is a separate matter. Parallels between Galen's and Atticus' arguments against Aristotle undoubtedly exist,⁵⁹ but it seems to me that Galen's overall reception of Aristotle has very little in common with Atticus' critique, which rather constitutes an ideological defence of Platonism against Aristotelian contaminations.⁶⁰ Atticus' objections are hardly more than invective, and, while Galen did not shun invective himself, his critical discussions of Aristotle have a completely different focus. Galen's attitude also differs from the Aristotelising position of Middle Platonists such as Alcinous. No doubt, Galen defends a broadly Platonic (or at least Platonising) philosophy, which adopts several Peripatetic doctrines, and his position generally agrees with philo-Aristotelian Platonism. Alcinous' *Handbook of Platonism* (Διδασκαλικός) is the most important surviving document of Aristotelising Middle Platonism.⁶¹ Alcinous' Platonism is inclusive and accepts several Aristotelian doctrines without renouncing Platonic allegiance.⁶² Such a position may undoubtedly recall Galen's,⁶³ but important differences remain. At least two points should be noted: as far as I can judge, Galen is not interested in scholastic polemics about the agreement or disagreement between Plato and Aristotle; furthermore, his knowledge of Aristotle's writings seems to find no parallel in the Middle Platonic tradition. Apparently, the knowledge of Aristotle possessed by philosophers such as Alcinous or Plutarch was mostly based on handbooks and compendia.⁶⁴ Their works certainly include several references to Aristotelian or Peripatetic doctrines, but hardly any real philosophical discussion of Aristotle's writings.⁶⁵ Galen's acquaintance with the Aristotelian corpus is completely different, and far closer to what we find among contemporary Peripatetic commentators. After all, Galen *was* an extensive

⁵⁷ For an overall presentation of the Middle Platonic reception of Aristotle see Donini 1982: 106–16; Moraux 1984: 441–582. See now Karamanolis 2006.

⁵⁸ On Nicostratus' and Atticus' criticism of Aristotle see Moraux 1984: 528–82. Further references are given in Chiaradonna 2005.

⁵⁹ See n. 47 above.

⁶⁰ Atticus wrote a polemical tract against Aristotle and Aristotelising Platonists, fragments of which are preserved by Eusebius' *Praeparatio Evangelica* (see des Places 1977: 37–69 = frs. 1–9). For a balanced assessment of this work see Zambon 2002: 129–42.

⁶¹ Whittaker 1990 and Dillon 1993. ⁶² Moraux 1984: 443–4. ⁶³ Donini 1992: 3492–5.

⁶⁴ Cf. Donini 1986: 214–5. For a different assessment, however, see Karamanolis 2006.

⁶⁵ In my view, passages such as Plutarch. *Adv. Col.* 1114F–1115C are no exceptions (see Chiaradonna 2005: 265). For a much more positive assessment of Plutarch's discussion of Aristotle, however, see Karamanolis 2006: 92–100.

commentator of Aristotle,⁶⁶ and – to the best of my knowledge – there is no Middle Platonic parallel for this type of commentary. As far as we know, Plotinus was the first Platonist to rely on an extensive knowledge of Aristotle (and of the Aristotelian commentary tradition),⁶⁷ while Porphyry was the first Platonic commentator of Aristotle.⁶⁸

In short, Galen's admiration for Plato's *Timaeus* and his acquaintance with the Middle Platonic exegesis of Plato do not make him one of the several professors of Platonic philosophy in the Imperial Age. No doubt, (Middle) Platonic material can be found in his writings, but Galen's use of this material is not (or at least not straightforwardly) Middle Platonic. One should not underestimate, then, Galen's self-acknowledged eclecticism (*Lib. Prop.* XIX.13; *Aff. Dign.* V.41–3): Galen claims to be an eclectic in that he is able to *choose* the best doctrines defended by different philosophical schools. Accordingly, his eclecticism is far from being an uncritical juxtaposition of disparate philosophical views.⁶⁹ I argued above that Galen's defence of Plato's demiurge, and his critical discussion of Aristotle's physics are parts of a single strategy, which can only be appreciated in the light of his conception of a natural order and causality; such a conception, in turn, forms an integral part of Galen's views on medical and natural science. As far as I can judge, this is completely different from anything we might find in the Middle Platonic scholastic tradition.

EPISTEMOLOGY AND THE LIMITS OF KNOWLEDGE

Galen's logical and epistemological doctrines agree with this proposed reconstruction.⁷⁰ Unfortunately, his vast logico-epistemological treatise *On Demonstration* is lost, but what we can grasp from Galen's extant writings (in particular, *MM* and *PHP*) suffices to define his position. The Middle Platonic philosophical background emerges in Galen's inclusive conception of the logical or rational method (λογικὴ μέθοδος). In his surviving works,

⁶⁶ *Lib. Prop.* XIX.47.

⁶⁷ See Chiaradonna 2005.

⁶⁸ See Karamanolis 2004. It would be interesting to compare Galen's relation to Middle Platonism with Plotinus'. Both Galen and Plotinus are well acquainted with the Platonic exegetical tradition and both are remarkably independent from it. Both Plotinus and Galen accord prominent importance to the critical discussion of Aristotle. Both are extremely difficult to classify according to traditional Middle Platonist scholastic positions. Needless to say, however, Galen's and Plotinus' philosophies developed in completely opposite directions. Galen's attitude to the previous philosophical tradition is governed by his views on nature and medical science; Plotinus' attitude is governed by his metaphysical views on being and knowledge. Plotinus was probably acquainted with at least some of Galen's writings (*PHP* and *DD*): see Tieleman 1998 and Chiaradonna 2003.

⁶⁹ For a sympathetic evaluation of Galen's eclecticism see Hankinson 1992b.

⁷⁰ For an overall presentation of Galen's views on logic and epistemology, see Müller 1895/7 and Barnes 1991.

Galen does not present a complete list of the parts of the logical method,⁷¹ but such a list would certainly include division, definition, syllogism (and its various types), analysis and synthesis.⁷² Geometry also plays a central role, most notably in his theory of relational arguments.⁷³ Parallels with contemporary Middle Platonic accounts, especially Alcinous' treatment of dialectic, are striking.⁷⁴

Galen maintains that demonstrations should take fundamental, evident truths as their starting points, and he presents reason and perception as the two sources of certain and evident cognition.⁷⁵ It is not surprising, then, that several of Galen's epistemological texts focus on the senses,⁷⁶ on their anatomical and physiological basis and on their cognitive function. Galen maintains that manifest cognition coupled with correct demonstration allows us to investigate the very nature of things: 'logic' can thus be conceived as the proper method of medical enquiry; and Galen constantly points out that doctors should be well trained in logical reasoning.⁷⁷

As I noted above, both Galen and Alcinous share the same broad conception of 'logic', which includes epistemology and cannot be separated from psychology and 'physics' (in a broad sense).⁷⁸ Furthermore, both Alcinous and Galen credit Plato with the theorisation of rational methods,⁷⁹ and both Alcinous and Galen include in their 'logic' Aristotelian and Stoic doctrines. Similarities between the two, however, should not lead us to underestimate the differences. First, a manifest divergence exists between Alcinous' and Galen's treatments, one which depends on the different character of their writings. It is clearly impossible to compare Galen's long discussions on logic and epistemology in works such as *PHP* and *MM* (let alone *DD*) with a handbook of Platonic philosophy. However, further

⁷¹ Note that Galen talks sometimes of logical *methods*: cf. *MM* 1.3 = X.28; 2.5 = X.115. In what follows I am deeply indebted to Frede 1987a.

⁷² Passages dealing with the rational methods are collected in Müller 1895/7: 417–60. See also the impressive list of Galen's logical works at *Lib.Prop.* XIX.43–5.

⁷³ See also Barnes 1993a; 2003 (with different conclusions).

⁷⁴ See the lists of dialectical methods in Alcinous, *Did.* 2.153 and 5.156 Hermann; see also S.E. *PH* 2.213. On Galen and Middle Platonic dialectic cf. Frede 1987a; Hankinson 1992b; Tieleman 1996a: 10–37; 1996b.

⁷⁵ *MM* 1.4 = X.36. Cf. Hankinson 1997: 200.

⁷⁶ Most notably vision, to which Galen dedicated at least two books of his *On Demonstration* (*DD* 5 and 13). Cf. Müller 1895/7: 465–7 and 471–5.

⁷⁷ See Barnes 1991: 52.

⁷⁸ Barnes 1991: 68 points out that Galen's *DD* followed not only Aristotle's *An.Post.*, but the *Analytics* as a whole. This is undoubtedly true, but one should also note that several sections of *DD* were close in content to Aristotle's *De Caelo*, *Physics*, etc. This inclusiveness of approach of *DD* is a fundamental part of Galen's conception of logic and epistemology, and hardly allows Barnes' characterisation as 'odd items' (Barnes 1991: 69 n. 61).

⁷⁹ Cf. Alcinous *Did.* 6.158.17–18 and 39–40; 159.43 Hermann; Galen, *PHP* 9.9 = V.796–7; *Inst.Log.* 15.10 and 18.2.

differences exist, which cannot be explained merely in terms of literary genre.

It is worth quoting here part of Alcinous' famous comments on analysis and synthesis:

Analysis comprises three types: the first is an ascent from sense-objects to the primary intelligibles; the second is an ascent through what can be demonstrated and indicated to propositions which are indemonstrable and immediate; and the third is that which advances upwards from a hypothesis to non-hypothetical first principles . . .⁸⁰

Alcinous' examples of analysis are taken from Plato's metaphysics and psychology: the ascent from corporeal to transcendent beauty provides the first type; the proof of the immortality of the soul provides the second; the search for a non-hypothetical principle provides the third.⁸¹ In short, Alcinous maintains that the method of analysis is closely related to the discussion of problems relating to (Plato's) speculative philosophy. Galen repeatedly focuses on analysis,⁸² and his methods can be fruitfully compared with those of Alcinous.⁸³ However, it seems to me that differences are more significant than similarities. In *Pecc.Dig.* V.80 Galen associates analysis with applied mathematics.⁸⁴ Applied mathematics actually have a strong appeal to Galen, since their results can be checked against experience in a way that, in his view, is clear and irrefutable.⁸⁵ Significantly, Galen repeatedly points out that speculative philosophy does not allow exactly this kind of testing and cannot attain scientific certainty. The situation is completely different with geometry, whose method of analysis provides the model of knowledge that Galen invokes for medicine:

Each of these [premisses] needs to be proved on the basis of further premisses, which themselves are based on others still, until we arrive at the primary ones, which derive their justification neither from others, nor from demonstration, but from themselves. It is the same, in my view, with all of the things demonstrated in medical science: all of them must be reduced to certain primary indemonstrable propositions which are self-justifying: if everyone tried to say something about the therapeutic method in this way, they would be in general agreement with one another, like the arithmeticians, geometers, and calculators.⁸⁶

⁸⁰ *Did.* 5.157.11–15 Hermann, trans. Dillon 1993: 9. On Middle Platonic and Neoplatonic conceptions of analysis see Schrenk 1994 and Sorabji 2005: 268–71.

⁸¹ *Did.* 5.157.16–43 Hermann.

⁸² Most notably in *Pecc.Dig.* V.80–6. Further references in Frede 1987a: 289 and Barnes 1991: 67. See also Morrison 1997: 18–19.

⁸³ Cf. Tieleman 1996a: 31. ⁸⁴ Cf. Lloyd 2005: 124. ⁸⁵ Cf. Tieleman 1996a: 36.

⁸⁶ *MM* 1.4 = X.33–4, trans. Hankinson 1991a: 18.

Galen's position on the status of medical knowledge, then, constitutes the basis for understanding his employment of logical doctrines.⁸⁷ Galen's emphasis on analysis and, more generally, his views on the heuristic value of rational methods also depend on this general approach.⁸⁸ As Michael Frede argues convincingly, this position derives not only from the philosophical tradition, but also from Galen's medical background. Galen provides a full philosophical analysis of a variety of issues that had emerged in the debates on medical cognition opposing empiricist, methodical and 'rationalist' doctors.⁸⁹ All this, obviously, has very little in common with Alcinous' views on dialectic, which point to a completely different doctrinal context. While Alcinous' discussion of logical methods is closely related to ontology and metaphysics, Galen's epistemology forms part of his views on (medical) science.

Middle Platonic philosophers had little interest in natural investigations,⁹⁰ and their interest in logical methods was part of their philosophical and ideological project. They aimed to prove (1) that Plato 'anticipated' doctrines developed by posterior philosophers and philosophical schools and (2) that Plato's ontology and theory of knowledge provide a necessary foundation for such theories. Alcinous' references to the Stoic doctrine of *phusikai ennoiai* are extremely interesting in this respect. Alcinous, notoriously, employs this Stoic formula to refer to the 'memories' we have of the transcendent forms that our soul contemplates before entering the body.⁹¹ George Boys-Stones has provided a convincing description of Alcinous' strategy. According to Boys-Stones, Alcinous aims to prove that Platonism supplies the best foundation for Stoic theories of knowledge:⁹² he sets out a Platonist answer (which refers to Plato's

⁸⁷ *MM* 1 and 2 provide sufficient evidence of this fact. Cf. Hankinson 1991a.

⁸⁸ Cicero (*Top.* 6; *De oratore*, 2.160) ascribes a special interest in the methods of invention to the Peripatetics; significantly, traces of such an interest can actually be found in Alex. Aphr. *An.Pr.* 1.7.; D.L. V.28–9. See Frede 1987a: 288; Tieleman 1996a: 32–4; 106–25; Reinhardt 2003: 189–200. However, Galen's emphasis on the heuristic value of rational methods seems to be unparalleled in his contemporary philosophical tradition, and (to my knowledge) has no analogue in Middle Platonic literature. Galen wrote a whole treatise *On Demonstrative Discovery* (*Lib.Prop.* XIX.44) and his lost *DD* certainly included discussion of *Ars inveniendi* (cf. *MM* 1.40 = X.42). Galen's heuristic conception of logic constantly comes up in his writings and can interestingly be compared to contemporary debates on the status of logic: see Cellucci 2005.

⁸⁹ Cf. Frede 1985 and 1987a.

⁹⁰ The most remarkable exception is obviously Plutarch, whose interest in natural science is however clearly subordinated to metaphysics (see Donini 1988b).

⁹¹ See Alc. *Did.* 4.155.27; 155.32; 156.19–20; 156.21; 5.158.4 Hermann. For an excellent list of parallels cf. Whittaker 1990: 84. See also Boys-Stones 2005: 216–17.

⁹² Boys-Stones 2005: 218–23. The same holds true for Alcinous' reception of Aristotle's epistemology: see Schrenk 1993. Unfortunately, Schrenk's remarkable studies on Middle Platonic epistemology have not received the attention they deserve.

psychology and metaphysics) to the Stoic treatment of the mental preconditions of knowledge.

I have mentioned this Platonist view, because it can be fruitfully compared with Galen's position on epistemology. Galen's treatises contain many crucial references to *ennoiai*, and their significance has been clarified by James Hankinson: 'common conceptions . . . fix the reference of terms in the language; but it is the job of scientific investigation to uncover the *ousiai*, the essences, that underlie them'.⁹³ Galen regards ordinary language as the residue of a natural, pre-scientific knowledge of the world, which we can test and analyse by logical methods of enquiry until we reach 'essential' definitions. It is worth quoting a famous passage from *MM*, where Galen clearly presents his method as being based on 'common conceptions':

But since it is impossible to discover either the *differentiae* or the species of any genus whatsoever without a secure knowledge of the thing itself which is to be divided, we must now I suppose explain what a disease actually is in its definition, so that we may thus attempt a proper division of it. How then do we find this out correctly and methodically? How else than by the means specified in *On Demonstration*? First of all the common conception must be agreed upon (τῆς ἐννοίας πρότερον ὁμολογηθείσης): without it it is impossible to discover the substance of the matter at issue. We said that it is essential to adopt a common conception that is agreed by all, or else it is not fit to be called a starting-point.⁹⁴

Such a view is certainly not unique, and owes much to Hellenistic and post-Hellenistic epistemological debates.⁹⁵

One obvious point is that both Alcinous and Galen share here the same general philosophical attitude, as they employ Stoic concepts in a non-Stoic doctrinal context.⁹⁶ This is a common strategy among Imperial philosophers. As a matter of fact, in the last two decades, scholars have increasingly underlined the shared intellectual and exegetical background of Imperial philosophers.⁹⁷ This is a major contribution of recent

⁹³ Hankinson 1991a: 133. Hankinson maintains that, according to Galen, the logical method of analysis is the process by which we arrive at scientific assumptions starting from the data of ordinary language (see Hankinson 1991a: 124).

⁹⁴ *MM* 1.4 = X.40, trans. Hankinson 1991a: 21. See also *PHP* 7.1 = V.593; 9.6 = V.797, etc.

⁹⁵ See Hankinson 1997: 191–6, who compares Galen's use of 'common notions' to Antiochus' epistemology.

⁹⁶ On the Stoic 'flavour' of Galen's 'common notions' see Hankinson 1991a: 133. As Hankinson points out, Galen's common notions are definitely not Euclidean κοινὰ ἐννοιαί. On Galen's reception of the Stoic ἐννοιαί see now Brittain 2005: 191–6. Brittain shows that Galen's theory of 'ennoematic definitions' (*Diff.Puls.* 4.3 = VIII.708–9) is not identical with the Stoic theory of common notions. The two theories, however, are clearly connected and Brittain attempts to reconstruct a process of development between the Stoic theory and Galen's account. See also the valuable discussion by Kotzia-Panteli 2000.

⁹⁷ I only refer to the pioneering researches of Mansfeld 1992 and Donini 1994.

scholarship, but it should not prevent us from focusing on the *different* ways in which *different* authors used such common traditions and methods for *different* purposes: studies of a shared background should not lead us to equate divergent philosophical positions.⁹⁸ It is worth pointing out that, although Alcinous and Galen share a similar doctrinal background, they develop it along completely different lines. Alcinous aims to provide a Platonic metaphysical foundation for the Stoic ἐννοιαί within the framework of Plato's theory of recollection. He simply ignores the role of ἐννοιαί in the discovery of knowledge. Galen, in turn, has no interest in the kind of problems that underlie Alcinous' discussion of epistemology; his ἐννοιαί do not point to any metaphysical theory of ideas and recollection. Among the problems that do not allow any demonstrative solution, Galen includes that of the substance and immortality of the soul.⁹⁹ This simple fact is enough to prevent one from drawing any profound parallel between Galen's and Alcinous' epistemology, the latter being based on the theory of recollection (which, in turn, is based on the idea of immortality of the soul). Rather, Galen's epistemology aims to answer the question of how to acquire a secure scientific cognition, based on essential definitions, from the natural pre-scientific knowledge of the world reflected in language.

This leads to another major point of divergence between Galen and Middle Platonism. Galen's account of causality leaves little (if any) room for paradigmatic and formal causes.¹⁰⁰ Again, this fact makes it impossible to speak of a Middle Platonic allegiance in the case of Galen, since ideas and immanent forms are fundamental constituents of the Middle Platonic conception of reality.¹⁰¹ The reasons for Galen's negative attitude to formal causes are not easily ascertained, but it can reasonably be assumed that Galen's rejection was at least partly influenced by the role played by such causes in theoretical-speculative philosophies: scholastic Platonism certainly belonged to this group. A yet further similarity between Galen's and Middle Platonic epistemologies should be taken into account. Scholars have noted that Middle Platonic philosophers were not always straightforwardly 'dogmatic', but that at times they adopted a cautious position concerning the limits of knowledge. Clearly, such a position did not entail radical scepticism; rather, Middle Platonic philosophers – notably

⁹⁸ See the excellent remarks in Donini 1994: 5081–2. ⁹⁹ *PHP* 9.9 = V.793–4.

¹⁰⁰ For a remarkable discussion of this issue, see Donini 1980: 357–64.

¹⁰¹ This point is clear from, for instance, the 'Middle Platonic' excursus on being and causes in Seneca's letters 58 and 65. See also Donini 1979; Mansfeld 1992: 84–107; Dörrie and Baltes 1996: 291–8 and 414–21.

Plutarch – sometimes took an anti-dogmatic stance which at least partly agrees with Philo of Larissa's 'Academic' position.¹⁰²

Galen's caution about the limits of knowledge has been likened to Plutarch's position.¹⁰³ Notoriously, Galen has no sympathy for radical scepticism,¹⁰⁴ but he is certainly not (or not merely) a dogmatic rationalist, as he often stresses the limits of rational cognition. In addition, he insists that rational knowledge requires a careful and difficult training to avoid committing dangerous errors.¹⁰⁵ Is this cautious attitude about knowledge in agreement with Plutarch's 'Academic' Platonism?¹⁰⁶ The issue is both difficult and controversial, and I can only offer a general statement. Both Plutarch and Galen maintain that knowledge is attainable, but both are also extremely cautious about the limits and the possibility of attaining certain knowledge. There is certainly a broad similarity between their 'open' philosophical positions, which eschew dogmatism and sectarianism. A more detailed account, however, should also focus on the differences between the two authors, which, in my view, are extremely significant.

According to Pierluigi Donini, Plutarch's Academic position on the limits of knowledge includes three points: (1) a radical criticism of sense-perception, which cannot grant any firm and evident cognition; (2) a cautious attitude towards natural sciences, the explanations provided by which should not be taken as ultimate proofs, but rather integrated with metaphysical views; and (3) a cautious attitude in treating the nature of god.¹⁰⁷ Here I focus only on (1), which, in my view, clearly illustrates the difference between Plutarch's and Galen's position. In his criticism of sense perception, Plutarch aims to prove that no firm empirical knowledge can be attained. His treatise *Against Colotes* provides clear evidence for such an approach: Plutarch rejects an epistemology based on sensation and his

¹⁰² The relation between Philo and Plutarch (and Galen) was stressed, e.g., by Frede 1987a: 282–3. Donini 1986: 224 n. 38 criticises Frede's assessment. The issue is extremely controversial: see the presentation by Bonazzi 2003: 232–6. There is a vast, ongoing debate on Plutarch's 'Academic' position: see Babut 1994b; Opsomer 1998 (with the reviews by Bonazzi 2000 and Donini 2002b); Brittain 2001: 225–36; Ioppolo 2002; Donini 2002a; Bonazzi 2003; 2004; Opsomer 2005b.

¹⁰³ Frede 1987a: 283; Donini 1992: 3500.

¹⁰⁴ See *Diff.Puls.* 4.2 = VIII.711. On Galen's attitude to scepticism see Hankinson 1991b; Ioppolo 1993; Vegetti 1994.

¹⁰⁵ Cf. Frede 1987a: 295.

¹⁰⁶ On Plutarch's use of the term 'Academic' see the important remarks by Donini 2002a: 'Academic' does not necessarily refer to the 'New Academy'; rather, Plutarch often employs this term to refer to the 'Academic' tradition as a whole, from Plato onwards. Plutarch, then, maintains that a cautious position on the limits of knowledge characterises the whole tradition stemming from Plato.

¹⁰⁷ Donini 1986: 212–13.

anti-empiricist position is based on 'Platonic' dualistic views on knowledge and metaphysics.¹⁰⁸ According to Plutarch, then, the sensible world cannot be known in itself, and sense perception has no cognitive value. Accordingly, the search for truth in the sensible world leads to suspension of judgement (ἐποχή); hypotheses concerning the physical world cannot in any case attain the cognitive status of science: they are, at most, merely plausible.¹⁰⁹ As far as I can tell, Galen's position is exactly the opposite and definitely does not share Plutarch's anti-empiricism. Galen repeatedly presents experience as a source of genuine knowledge. His concept of 'experience' is a complex one and is not straightforwardly identical to 'sense perception';¹¹⁰ experience, in Galen's mind, is rather 'a more or less systematic collection of data derived from sense-perception'.¹¹¹ Sense perception and experience, however, are closely related (and, to a certain extent, interchangeable) concepts.¹¹² Galen maintains that sense perception and reason are *both* criteria that allow us to attain firm, evident knowledge of fundamental truths.¹¹³ Furthermore, experience provides a necessary confirmation of truths found by reason: problems of speculative philosophy, then, have no solution, since no empirical test is available and reason cannot be checked against experience. Galen's rejection of speculative cosmogony is a good example of this approach, which is obviously different from that of Plutarch, who actually argued in favour of speculative cosmogony *in propria persona* and presented metaphysical views as a necessary complement to the natural sciences.¹¹⁴ Galen's 'agnosticism' is closely related to medical debates on the role of reason and experience in establishing certain cognition: he is well aware that reason without experience may easily lead to wrong conclusions and his criticism of speculative philosophy depends on this epistemological position.¹¹⁵ I certainly do not wish to deny that debates within the Academic-Platonic tradition influenced Galen's views, but it seems to me that their influence is only secondary.¹¹⁶

Galen is a second-century intellectual with an outstanding philosophical education who regards Plato as his chief philosophical authority. Given this background, it would be extremely surprising if Galen had no acquaintance with the contemporary Platonic tradition. Yet such similarities are

¹⁰⁸ Cf. Plutarch, *Adv. Col.* 1114C–D with the discussion by Bonazzi 2004: 67–8. On Plutarch's Platonic dualism in *Adv. Col.* see also Donini 2002a: 269.

¹⁰⁹ Cf. Donini 1986 and 2002a: 270–1. Plutarch is obviously alluding to Plato, *Tim.* 29c–d; see Donini 2002a: 249.

¹¹⁰ Cf. Frede 1987a: 290. ¹¹¹ Cf. van der Eijk 2005b: 279. ¹¹² *PHP* 9.6 = V.766–7.

¹¹³ Galen's position can be paralleled with that of Ptolemy: see Long 1998. ¹¹⁴ See n. 47 above.

¹¹⁵ I follow Frede 1987a: 297. ¹¹⁶ Here I am inclined to disagree with Donini 1992: 3499–500.

not decisive, and pertain more to the 'matter' than the 'form' of Galen's philosophy. An evaluation of Galen's philosophical attitude against its Middle Platonic background alone almost unavoidably leads to negative conclusions. Galen refuses to adopt a definite position on crucial issues (including those in cosmogony, metaphysics and speculative psychology) and he seems to provide no positive philosophical contribution.¹¹⁷ Such a conclusion is *partly* correct, because – as Michael Frede remarks – Galen refuses 'to address and to answer a number of questions a Platonist of his day was expected to have an answer to'.¹¹⁸ This, however, does not imply that Galen is not philosophically interesting. One should rather note that Galen's most distinctive philosophical positions (especially his epistemology) hardly derive from his Middle Platonic background and, therefore, are extremely difficult to assess if we adopt Middle Platonic doctrines as criteria. In conclusion, it seems to me that whatever one's view of Middle Platonism may be, Galen was surely not a Middle Platonist.

¹¹⁷ Cf. Donini 1992: 3502–4.

¹¹⁸ Frede 2003: 75.

'Aristotle! What a thing for you to say!'

*Galen's engagement with Aristotle and Aristotelians**

Philip J. van der Eijk

INTRODUCTION

Since this volume is concerned with the topic 'Galen and the world of knowledge', it may be proper to begin this paper with a thought experiment about the way in which Galen would position himself within his own 'world of knowledge' – and how he would construe the spectrum of different strands of this intellectual world emanating from the prism of his own ego. Let us imagine Galen being subjected to an interview of the type one hears so often nowadays on radio or television and being invited to give an assessment of the factors that have contributed most significantly to his own intellectual development and to his formation as a scientifically and philosophically trained healer. For someone with only a superficial knowledge of Galen's writings, this is not difficult to imagine, for Galen is only too eager, at numerous passages in his work, to indulge in self-presentation, self-analysis and self-glorification. Being asked which of the philosophical schools and medical traditions he would rank highest, there is no doubt that, in his reply, Galen would give pride of place to Hippocrates and Plato; he would mention his personal medical teachers Pelops, Satyrus, Marinus and Numisianus; he would include references to some of the Hellenistic physicians, most notably the Alexandrian anatomists; and he would probably mention Posidonius in favourable terms too (though he would be much more critical of the older Stoics). When asked by the interviewer: 'And what about Aristotle and the Peripatetic school?', one imagines there would be a brief pause, before Galen would embark on a long sentence, beginning with an elaborate praise of Aristotle's achievements in

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logic and philosophy of science, his teleologically driven investigations of the natural world, his comparative anatomical discoveries and his views on elementary physiology and pharmacology. But in Greek, the first part of the sentence would probably be marked by the particle *men*, and the full weight would fall on the counterpart, introduced by an emphatic *de*, in which Galen would point out the errors and weaknesses of the Aristotelian school of thought: their lack of accuracy in dissection and anatomical description; their failure to apply teleological explanation correctly, consistently and comprehensively; their gross errors in the anatomical and physiological interpretation of the structure and the workings of the heart and the brain, most notably with regard to activities such as cognition and locomotion; their blatant ignorance of the nervous system, with the resulting errors in their accounts of vision and smell; and their hopelessly erroneous views on the mechanics of reproduction. The interviewer, keen for some excitement and sensing increasing agitation, would press Galen on the latter topic and ask: 'Speaking of testicles and female seed, what about the Peripatetics?' This would provoke an outburst on Galen's part, foaming against the so-called Aristotelians of his own time who, in addition to sticking to their legacy of false doctrines flying in the face of the manifest evidence, fail to comprehend the teachings of their master Aristotle correctly and misrepresent his doctrines. This is the view, I imagine, that Galen would like to project of himself and his relationship to Aristotelianism. But is it fair?

Scholarship seems to have no unitary answer to this question. Galen's self-assessment seems to be confirmed by Jacques Jouanna's recent analysis of Galen's concept of nature, in which he has shown that although Galen is much more indebted to Aristotle's notion of nature than to that of 'Hippocrates', he nevertheless presents the latter as the founder of the doctrine of the elementary qualities and Aristotle only as an exegete, interpreter and demonstrator of views already set out by Hippocrates.¹ As far as philosophy is concerned, while there has been a tendency in recent scholarship to give greater weight to Galen's indebtedness to Plato than to Aristotle,² other scholars such as Paul Moraux, Luis García Ballester and more recently Franjo Kovačić have insisted on the very strong 'Aristotelianising' tendencies in Galen's thought.³

In using the word 'Aristotelianism' I am, of course, not suggesting that any of these scholars would wish to claim that Galen was a Peripatetic or

¹ Jouanna 2003. ² See e.g. De Lacy 1972; Frede 1985; Singer 1991.

³ García Ballester 1971; Donini 1970–1; 1982; Moraux 1984; Gottschalk 1987: 1166–71; Kovačić 2001.

a strict adherent of Aristotle's philosophy.⁴ To be sure, from the autobiographical sections of his works we learn that Galen attended the teaching of several Peripatetic philosophers (among others an unidentified pupil of Aspasius), and he of course had Peripatetics among his circle of friends and acquaintances, such as Boethus and Eudemus⁵ – although one should add that he also vilifies the Peripatetics of his own days. Yet his acquaintance with Aristotelian philosophy and science was a result of his larger project of intellectual exploration of the various intellectual strands of his time, from which he chose eclectically what he could use for his own medical philosophy. In fact, this was Galen's attitude to all philosophical and medical schools of thought of his time, and although he did like some schools more than others, he often prides himself on his intellectual independence.⁶

As to the broader question to what extent Galen adhered to the main tenets of Aristotelian thinking, it is often said that Galen was more of a Platonist than an Aristotelian – indeed, he is sometimes discussed by scholars of ancient philosophy in the context of Middle Platonism and presented as having embraced the fundamental tenets of Platonic philosophy, especially in the area of psychology (notably the tripartition of the soul).⁷ One may have some reservations about this view, but on the whole it seems indisputable that Galen's *overt* adherence to Platonist philosophy is much stronger than that to Aristotle and the Stoics. Plato, alongside Hippocrates, clearly stands on a higher pedestal for him than Aristotle and Theophrastus, let alone the older Stoics. Yet we should distinguish between overt and covert appropriation of an earlier thinker's ideas; and one of the points I intend to make in this paper is that Galen's implicit use of Aristotelian thought is much more profound and pervasive than his explicit acknowledgement of his debt to Aristotle might suggest.

So what we will be concerned with here is Galen's reception of Aristotle's ideas and writings and, to a lesser extent, those of Aristotle's followers, the Peripatetics; and our primary interest is in Galen's attitude towards Aristotle, his overall evaluation of his ideas, his explicitly acknowledged usage of Aristotelian ideas and his overt criticism of Aristotle and the Peripatetics. Where relevant, this will be set against his implicit intellectual debt to Aristotelian thought – ideas and concepts as well as methodological procedures and terminology – and his covert criticisms of Aristotle, for instance

⁴ On the various uses and abuses of the term 'Aristotelianism' see Sharples' introduction to Sharples 2001.

⁵ See *On the Errors and the Affections of the Soul* V.41–3 (CMG V.4.1.1, 28.9–29, 16 De Boer); *On My Own Books* XIX.39–43 (SM II.115, 21–119, 2 Marquardt, Boudon-Millot 2007a; 164.1–167.7).

⁶ See Donini 1992: 3497–504.

⁷ See De Lacy 1972; Singer 1991; also, more sceptical of this claim, Chiaradonna in this volume.

through other Peripatetics or early Hellenistic medical writers such as Erasistratus. One of the key questions will be that of the reasons underlying Galen's attitude towards Aristotelian thought. Obviously, within the scope of this paper, I will have to be selective: I will concentrate on the study of (living) nature, an area for which Galen did not have one designated term⁸ but which we would designate as 'biology' or 'physiology' and, as far as generation is concerned, 'theory of sexual reproduction' and 'embryology'.⁹

GALEN'S APPROPRIATIONS OF ARISTOTELIAN THOUGHT

Even a superficial impression of Galen's massive *oeuvre* cannot fail to convey a sense of the enormous, indeed paramount, formative influence of Aristotelian thinking on his works. Electronic and other searches for the names of Aristotle, Theophrastus, or 'the Aristotelians' or 'the Peripatetics' (usually indicated as *hoi ek tou Peripaton*) in the Galenic corpus yield several hundreds of occurrences (many of which are, curiously, absent from Gigon's 1983 collection of the fragments of Aristotle); and Galen's explicit engagement with the works of Aristotle and his pupils is clear from almost every page. Galen's familiarity with the writings of Aristotle is equally impressive: as Paul Moraux has shown,¹⁰ Galen was aware of, and sometimes quotes from, a very wide range of Aristotelian works, including the *Organon*, the *Physics*, *On the Heavens*, *On Coming to Be and Perishing*, the *Meteorology*, *On the Soul*, *On Sensation*, *On Sleep and Waking*, *On Youth and Old Age*, the zoological works *Parts of Animals*, *History of Animals* and *Generation of Animals*, as well as the pseudo-Aristotelian works *Physiognomonics* and the *Natural Problems*, whose authenticity is for him not in doubt.¹¹ Equally indisputable is the very large extent to which

⁸ Galen sometimes refers to the study of nature by means of terms such as *ta phusika*, *phusiologia*, *phusika problēmata*, *peri phuseōs logismoi*, though sometimes these terms are used to refer to theoretical problems devoid of practical relevance to medicine (see, e.g. the passage from *On Mixtures* cited in n. 24 below).

⁹ Other areas that would merit interest are logic and philosophy of science (on which see Hankinson in this volume) and theory of sensation, especially vision (for which see Galen's sustained polemics against Aristotle in *On the Doctrines of Hippocrates and Plato* (PHP) V.637–44), smell (see *On the Organ of Smell* II.870–3, CMG Suppl. V.48.4–50.28 Kollesch, where Galen criticises Aristotle on anatomical grounds) and sleep (see *On the Causes of Symptoms* V.141–2, where Galen criticises Aristotle's account in *On Sleep and Waking*, especially the alleged incapacitation of the primary sense-organ, for its underlying cardiocentrism; see van der Eijk and Hulskamp 2009: Section 7). A chapter in its own right is Galen's critique of Aristotle's theory of reproduction, on which see below, p. 277.

¹⁰ Moraux 1984: 689–91; 729–35.

¹¹ As Moraux notes (1984: 792), familiarity with the *Ethics*, the *Rhetoric* and the *Poetics* is more difficult to assess: Galen wrote extensively on language and poetry, but most of this is no longer extant.

Galen, without explicit acknowledgement, uses Aristotelian ideas, concepts, methodological tools and logical distinctions in his discussions and classifications of diseases and pharmacological treatment. As Luís García Ballester has shown, even Galen's reading of Plato is in many ways an Aristotelianising reading, in his tendency to conflate Plato's spirited and appetitive parts of the soul to one non-rational part – a development also found in other Middle-Platonist thinkers.¹²

In talking about explicit and implicit usage, I am adopting a distinction made also by David Runia in his study of the reception of Aristotle among the Church Fathers.¹³ In several respects this reception presents an interesting parallel. As in the case of the Church Fathers, there are many reasons why Aristotle's thought must have been particularly attractive to Galen. Let me mention only the most important ones. Aristotle's works on logic and the philosophy of science, especially his *Categories* and his *Posterior Analytics*, in which he expounds his ideas on scientific demonstration, were particularly appealing to the sense of rigour that Galen felt was essential to a successful execution of the medical art based on universal knowledge.¹⁴ Not only did Galen write, as he says, 'just for practice',¹⁵ commentaries on five of the six works of the Aristotelian *Organon* (as well as on Theophrastus' work *On Negation and Affirmation* and Eudemus' work *On Language*). He also wrote an extensive work *On Demonstration*, which is, unfortunately, lost but to which he refers on a number of occasions and in which, we may infer, the Aristotelian influence was very considerable.¹⁶ As the first two books of his *On the Therapeutic Method* (*De Methodo Medendi*, *MM*) and the shorter therapeutic work *To Glauco on the Method of Healing* show, Galen regards a command of logic and epistemology, an awareness of the requirements for scientific demonstration, a proper understanding of the rules for correct definition, division and 'specification' (*diorismos*) as absolutely essential not only on a theoretical level but even for the practical execution of the medical art;¹⁷ and he acknowledges Aristotle's mastery

¹² See García Ballester 1972: 117–19; Donini 1992; Vander Waerdt 1985b. ¹³ Runia 1989.

¹⁴ Hankinson 1992b.

¹⁵ *On My Own Books* XIX.41–2 (*SM* II.117.20–118, 17 Marquardt, Boudon-Millot 2007a; 166.1–22).

¹⁶ For a reconstruction of this work see Müller 1895–7 and Chiaradonna 2009. Galen also wrote a short *Introduction to Logic*, which survives and in which, alongside Aristotelian logic, the Stoic influence is strong; see Hankinson 1992b: 3513–14.

¹⁷ See e.g. *MM* X.26: 'So Aristotle and Plato thought it so large and difficult an enterprise to cut genera accurately into their proper divisions (as subsequently did Theophrastus and the other philosophers who tried to bring the method to completion) that it was not yet completely accomplished even by them' (tr. Hankinson). See Hankinson 1992b: 3514–19 and van der Eijk 2008; on *diorismos* see van der Eijk 1997.

here (alongside that of Plato and Theophrastus).¹⁸ In his insistence on these requirements, and in his criticism of rival physicians who fail to master these and therefore fail hopelessly, Galen uses Aristotelian concepts, terminological distinctions (such as those between *kath' hauto*, 'in itself' and *kata sumbebēkos*, 'incidentally', or *logos*, 'reason' and *empeiria*, 'experience') and dihaeretic schemata all the time, for instance in his classifications of the phenomena of disease, types of fever and pulse.¹⁹

Likewise, in the study of nature, Galen applies Aristotelian notions such as potentiality and actuality (*dunamis* and *energeia*) to his accounts of bodily functions and to the workings of foods, drinks and drugs on the body; in the field of causal analysis he distinguishes between material, efficient and final causes and between essential and accidental causes.²⁰ Also of paramount importance is Aristotle's use of teleological explanation of bodily parts as expounded most prominently in his *Parts of Animals* – a work that exercised great influence on Galen, most notably in his own work on the *On the Function of the Parts* (*De usu partium*, *UP*).²¹ Of course, this does not exclude criticism: Aristotle's teleology does not go far enough for Galen: on a number of points Galen feels forced to 'complete' Aristotle's account.²² As will be pointed out later, he corrects factual errors on Aristotle's part, for instance regarding the anatomical layout of the body or the functioning of specific parts – most strikingly, of course, on the heart and the brain. Yet Galen regularly voices similar criticism (both regarding the failure to assign a purpose, or the correct purpose, to specific bodily parts and regarding the making of factual anatomical errors) of Hippocrates and Plato, and one may add that a good deal of charitable reading is needed to make Hippocrates, or the Hippocratic writings, suit Galen's purposes; and the same can be said for Plato.²³

In the area of elementary physiology, as expounded in Galen's works *On the Elements according to Hippocrates*, the *Commentary on Hippocrates' Nature of Man* and in *On Mixtures*, the influence of Aristotle's *On Coming to Be and Perishing*, *Parts of Animals* and *Meteorology* is noticeable on almost every page. Aristotle's much more systematic discussion of the elementary

¹⁸ See e.g. *PHP* V.213 (CMG V.4.1.2, 104.3–4 De Lacy): 'I say that the best accounts of scientific demonstration were written by the old philosophers, Theophrastus and Aristotle in their *Second Analytics*' (tr. De Lacy); *MM* X.25–6.

¹⁹ For examples see Donini 1982: 128. ²⁰ Donini 1982: 128. ²¹ See Moraux 1985a.

²² See e.g. *UP* IV.145 (II.286 Helmreich) and IV.157 (II.296 Helmreich); see further below, p. 274.

²³ Cf. Hankinson 1992b: 3510: 'However justified Galen might be in claiming Platonic and Hippocratic antecedents for his teleology, there can be no doubt that, when he actually gets around to working out the ramifications of the theory in physiological detail, it is the example of Aristotle he most clearly looks towards.'

qualities provided Galen with a good deal more support than the scattered and often contradictory accounts in the Hippocratic corpus;²⁴ the same applies even more strongly to the area of elementary pharmacology.²⁵ In humoral physiology, as expounded in *Natural Faculties*, Galen incorporates Aristotle into the large host of authorities invoked to support Galen's appeal, in his battles against Erasistratus, to the four-humour theory of the Hippocratic work *Nature of Man*.²⁶ Interestingly, Galen here ignores fundamental differences between the physiological systems of Aristotle and that of the author of the Hippocratic treatise,²⁷ and he criticises the followers of Erasistratus for erroneously trying to connect the teaching of their master to that of Aristotle.²⁸

Furthermore, in psychology, or indeed psycho-physiology, Galen gratefully finds support in Aristotle's comments on the anatomy and physiology of cognitive functions, especially his remarks on the different conditions of the blood and their implications for different cognitive performance. In

²⁴ In *On Mixtures* (*De temperamentis*, *Temp.*) Aristotle is the authority quoted most often (alongside Hippocrates) on the elementary properties, even though Galen at the same time points out that his views are often misunderstood or misrepresented; cf. I.534–5 (16, 24–17, 13 Helmreich): 'It is clear from this what great harm is done to proper medical practice by errors in reasoning about nature... [P]eople engage in debate about matters which are evident to the senses as if they were themselves deaf and blind, and appeal to the authority of Aristotle, whose teachings they misunderstand. Aristotle is aware of the multiplicity of senses of the terms hot, cold, dry and wet. Yet these people interpret him as if he were always using them in the same sense. Aristotle himself even explained how 'to be hot' does not mean the same thing in the case of the individual's own innate heat and that of heat acquired by some external agency. Even this, though, is misunderstood. Furthermore Aristotle, and similarly Theophrastus, gave an accurate account of the criteria to be used in deciding whether an object is well balanced or ill balanced. But our friends are unaware of that' (tr. Singer); *ibid.* I.565–6 (35.17–36.7 Helmreich) and I.624–5 (72.10–25 Helmreich).

²⁵ Cf. *Temp.* I.666 (98.23–27 Helmreich): 'This (i.e. the workings of drugs) then is among the many matters described correctly by Aristotle, who says that among bodies which are hot, cold, dry, and wet, some have these qualities in their very nature, others incidentally; water is in its own nature cold, but it will happen sometimes that it is hot incidentally.' (tr. Singer); *ibid.* I.672–3 (102.13–23 Helmreich). Aristotle and Theophrastus are prominently present, and usually coupled, as chief authorities in Galen's main pharmacological work *On the Mixtures and Properties of Simple Medicines*; see, e.g. XI.474; XI.510; XI.547; XI.629; XI.654; XI.657; XI.664; XI.679.

²⁶ Cf. *On the Natural Faculties* (*Nat.Fac.*) II.210 (*SM* III, 181 Helmreich): 'But the clever Erasistratus overlooks and despises things which neither Hippocrates nor Diocles nor Praxagoras nor Philistion nor indeed any of the best philosophers despised, neither Plato nor Aristotle nor Theophrastus, and thus he passes by entire activities, leaving them aside as if they were something unimportant and an incidental part at the art.' (tr. van der Eijk 2000–1: I.43); *PHP* V.686 (CMG.4.1.2, 510 De Lacy): 'Not only Plato but also Aristotle, Theophrastus and the other followers of Plato and Aristotle emulated the reasoning of Hippocrates on the humours, as did also the most esteemed of the ancient physicians, Diocles, Pleistonicus, Mnesitheus, Praxagoras, Philotimus and Herophilus' (tr. De Lacy 1978–84).

²⁷ On Galen's manipulation of the evidence here see van der Eijk 2000–1: II.47–57 and Vegetti 1999a: 390; Cambiano 2000.

²⁸ On the association between Erasistratus, the Erasistrateans and Aristotle, and on Galen's varying attitudes to this see Lonie 1964; von Staden 1997c; Vegetti 1999a: 386; Cambiano 2000. See also below, pp. 279–80.

spite of their radically different views on the location of the various soul functions and the role of heart, brain and nerves (which Aristotle was not aware of), Aristotle, as Galen construes him (again, alongside Hippocrates and Plato), lends ample support to Galen's thesis 'that the faculties of the soul follow the mixtures of the body', a thesis defended by Galen in his work of the same title.²⁹ In this work, Galen uses extensive quotations from Aristotle's zoological works to demonstrate this point:

Aristotle, too, believes that the soul's faculties depend upon the mixture of the mother's own blood, from which, in his opinion, our blood derives. This is shown by the following passages. (*QAM* IV.791).

Galen quotes at length and verbatim from *Parts of Animals* II.2–4, in which Aristotle correlates different qualities of the blood (such as thicker and hotter, lighter and colder, clearer vs. more turbid) to differences in sensory and intellectual powers. He also adduces a number of physiognomical passages correlating variations in the shape and size of the eyes and ears to different character traits; these are taken from *History of Animals* (I.8–11), but Galen also refers here to the (pseudo-)Aristotelian *Physiognomonics*. Indeed, this Galenic Aristotle is the author of the *Physiognomonics* and the *Natural Problems*, both quoted by Galen in this treatise as witnesses to Aristotle's ideas.³⁰ It therefore comes as no surprise that Galen's Aristotle, at least in *QAM*, is credited with a position on the mind–body relationship that comes rather close to what we would call 'materialism';³¹ and it is no coincidence that in later Greek philosophy the Galenic position that identifies the soul as the 'mixture' (*krasis*) of the body, referred to as the doctrine of 'the doctors', was sometimes associated with Alexander of Aphrodisias' position in his *On the Soul* and even, strikingly, with Aristotle's view of soul as the *entelekheia* of the body.³² Indeed, Aristotle, as Galen construes him is, we may say, a 'medicalised' Aristotle, whose interests in the physiology and pathology of soul functions are much more prominent and pervasive than most Aristotelian scholars nowadays would wish to

²⁹ Usually referred to in Latin as *Quod Animi Mores Temperamenta Corporis Sequuntur* (*QAM*). On Galen's argumentative strategies in this work see Lloyd 1988, also Jouanna in this volume.

³⁰ *QAM* IV.794 and 798. For Galen's belief in the authenticity of the *Problems* see also *Commentary on Book VI of Hippocrates' Epidemics* XVIIIB.29 (CMG V.10.2.2, 138.19 Wenkebach); *PHP* V.641 (CMG V.4.1.2, 472 De Lacy).

³¹ See the analysis by Lloyd 1988; Hankinson 1991c, 2006.

³² See Donini 1982: 131 and 1970–1: 98–9, where he refers to Michael of Ephesus' *Commentary on Aristotle's Parva Naturalia*, 135, 22–30 Wendland; see also Philoponus, *On Aristotle On the Soul*, 9.23, 51.26 and 52.8.12 Hayduck, with the comments in van der Eijk 2005c: 120–1 n. 115 and 135 n. 378.

concede. Galen would not wish to go so far as to say that Aristotle was a physician – but then neither was Plato. But Aristotle, again just like Plato, was regarded by Galen as an authority also in matters medical – not just zoological anatomy and physiology, but also pathology, therapeutics and pharmacology – largely because Galen shared Aristotle's comprehensive view on medicine, especially the need for medicine to be based on theoretical and universal principles derived from the study of nature.³³

We could go on listing examples like these. They all show that Aristotle's thought – and, though perhaps to a lesser extent, that of his followers, such as Theophrastus, Strato and others – was, and was often acknowledged to be, of profound influence on a number of key areas of Galen's thought and must have been a major source of inspiration.

GALEN'S STRATEGIES IN PRESENTING HIS INTELLECTUAL PEDIGREE

Yet, as we will see in some detail below, the impression that emerges from Galen's works is that Galen is far less generous in acknowledging his debt to Aristotle than he is when it comes to Hippocrates and Plato. He seems more lenient and indulgent to Hippocrates and Plato than to Aristotle when it comes to forgiving the factual errors that even Galen cannot deny they make. He seems much more flexible in moulding 'Hippocrates' to suit his own purposes than he is with Aristotle – indeed, he is quick to castigate Aristotle for his faults. It is almost as if, in Galen's eyes, Aristotle cannot be forgiven for things for which Hippocrates and Plato could be forgiven: as if Aristotle should have known better.

One might say that this is, perhaps, hardly surprising, at least as far as Hippocrates is concerned. There was, after all, an already existing tradition of Hippocratic authority in the first and second century AD, and one might argue that it would be somewhat artificial to suggest that Galen might have selected a different hero to relate to, as if he were in a position to make a conscious choice out of a number of different options. As far as Plato is concerned, one could point to the attractiveness, to Galen, of some fundamental Platonic tenets such as the tripartition of the soul and, more broadly, to the revival of (Middle) Platonism in the second century, to which Galen may have been indebted.³⁴ One could make similar points

³³ The ancient tradition, attested elsewhere (see Harig 1983), that criticised Aristotle for failing to continue the medical tradition of his father finds no reflection in Galen.

³⁴ See Donini 1974; 1982.

for Galen's Aristotelianism and connect his particular version of Aristotle to contemporary developments in the Peripatetic school, most notably, of course, to Galen's younger contemporary Alexander of Aphrodisias.³⁵

Yet, as Geoffrey Lloyd and Peter Singer have shown, it is all too easy to take Galen's Hippocratism and Platonism for granted, as if they simply were a product of their time. The example of the defiant Methodists shows that, in medicine, Hippocratic authority was by no means unassailable; moreover, there was considerable rivalry among different interpretations of Hippocrates.³⁶ This suggests that Galen may well have had other options in constructing an intellectual pedigree of his work. As to Galen's Platonism, it is worth quoting from Singer's conclusions:

I think one can add further reasons why it suited Galen to appear, specifically, as a Platonist. One is the standard of rigour, the importance of mathematical and geometrical discipline for the aspiring scientist or philosopher, which is a feature of Plato and with which Galen obviously feels sympathy, not just, presumably, because he himself had had some amount of this kind of training, but also because this gave him a position of authority from which to despise his opponents who had no such rigorous approach.³⁷

One may agree with Singer when it comes to suggesting that Galen's self-presentation is the result of a deliberate strategy rather than an automatic mechanism. However, there is an interesting footnote in which Singer comments on this sense of 'rigour' that appealed so strongly to Galen:

One should not of course ignore the extent to which this may constitute a genuine point of contact with Plato and not just a rhetorical pose; J. Barnes, for example, in 'Galen on Logic and Therapy', has explored the importance of Galen's interest in logic. But it seems to me exaggerated to claim that logical training, to the extent that Galen insists on it, is necessary for the practice of Galenic medicine; and anyway this interest would justify him rather in presenting himself as an Aristotelian.³⁸

³⁵ In this regard, it is worth observing that, with the exception of the logical writings, Galen did not write commentaries on works of Aristotle (and even those on the logical works were not meant for publication), as he did in the case of Plato's *Timaeus* and, of course, Hippocrates.

³⁶ See Lloyd 1991a; Smith 1979. ³⁷ Singer 1991: 55.

³⁸ Singer (1991) believes that a further consideration that may have motivated Galen 'lies in the Platonic idea of a small elite as the only possible possessors of knowledge, and the close connection between knowledge of the highest kind and virtue. Both these features of Platonic rhetoric, in Galen's hands, serve to fuel his polemics against rivals: presenting himself as a disciple of Plato, he sets up a moral divide between himself and his opponents, so that in attacking them he seems to be undermining their characters as well as their opinions; the strength of Galen's well-known rhetorical attacks would not seem equally justified in the context of a mere disagreement on facts.' Yet even here one could object that moral integrity was not the exclusive property of *Platonist* philosophy.

As I indicated above, and as the studies not only of Jonathan Barnes but also Jim Hankinson, Michael Frede and others have demonstrated, it is by no means an exaggeration to argue that, according to Galen, a command of logic and epistemology is essential to a successful execution of the medical art.³⁹ Precisely for that reason (quite apart from the other points of common ground mentioned above), it is not out of place to consider at least the possibility that Galen might have chosen to present himself as a self-styled Aristotelian, to embrace Aristotle as the great authority and to develop a science of medicine in the geometric mode along strict Aristotelian lines.⁴⁰ In this regard, he would not be alone, for his case could be paralleled, on the medical side, by that of the so-called Anonymus Londiniensis, the author of a medical text surviving on a famous papyrus, who lived, presumably, a century earlier and who chose an Aristotelian perspective both for his doxographical survey of earlier thinkers' views on the causes of disease and for his own contemporary doctrinal battles with the adherents of Erasistratus and Asclepiades.⁴¹

In what follows, therefore, I shall proceed from the assumption that Galen was in a position, and indeed used the opportunity, to present himself as a philosophical physician and to construe for himself an intellectual pedigree that would make him appear in a particular light; that doing so was part of an overall strategy of self-presentation; and that such strategic self-presentation and public performance was a common phenomenon in Galen's time-frame and in the cultural milieu commonly called 'the Second Sophistic'.⁴² In this light, it is indeed striking that even in areas where Aristotle provided so much more persuasive, pervasive and systematic support to the positions Galen wishes to defend, Galen nevertheless prefers

³⁹ See Frede 1981; Barnes 1991; Hankinson 1991a; 1992b; Donini 1992; Lloyd 1996; Tieleman 1996a.

⁴⁰ On the importance of logic and demonstration for medicine, and on the use of mathematics (especially geometry) as a model of rigour, see Lloyd 2005, who studies Galen's adoption of mathematical procedures derived from Euclid, Ptolemy and Hipparchus. Of course, Aristotle himself in his works on scientific method also repeatedly gives mathematical examples. This, in combination with Aristotle's comprehensive interests in biology, physiology and medicine, would constitute the main attraction, for Galen, of Aristotle as an authority.

⁴¹ See the pertinent comments by Manetti 1999, esp. 138–41.

⁴² In doing so, I also take a more favourable approach to Galen's alleged 'eclecticism', a term that was often used in the past in a pejorative sense and that has long bedevilled the study of medical and philosophical writers in later antiquity (such as Galen, Cicero, Plutarch, Nemesius, etc.), showing little appreciation of their agendas and achievements. By contrast, more recent scholarship has tried to do more justice to the extent of creative and imaginative 'picking and choosing' that went on in Galen and other authors – or, in other words, the extent to which they were *free* to prefer some strands of thought over others rather than being, to a large extent, predetermined by the times and the interpretative strands which they were part of. On Galen's relationship to the Second Sophistic see von Staden 1997a; Kollesch 1981a; Swain 1996.

to appeal to Hippocrates (and Plato) rather than Aristotle. What I will be doing in the rest of this paper is to examine some aspects of this presentational strategy, to study some of the ways in which Galen construes his relationship to Aristotle and Aristotelian thought and to consider some of the possible motives for this.

GALEN'S EVALUATIONS OF ARISTOTELIAN THOUGHT

A case in point is the area of elemental physiology and pharmacology. As we saw above, Aristotle is a chief authority in *On Mixtures*, a work that Galen himself regards as one of his most fundamental treatises. This work is indispensable for a correct understanding of physiology, pathology, dietetics and pharmacology, Galen often says, and as a theoretical treatise on elementary physics, it occupies a central place in his work.⁴³ In subject matter, it is closely related to his other works on the topic, his *On the Elements according to Hippocrates* and his *Commentary on Hippocrates' 'Nature of Man'*. Yet not only is the character of these works very different – the latter two being explicitly concerned with the exegesis of the Hippocratic doctrine, with *Elements* being a kind of free interpretative essay, the other being a line-by-line commentary on a Hippocratic text – but also Galen's evaluation of Aristotle's contribution to the subject seems to be rather different. Whereas in *On Mixtures*, Aristotle is a leading authority in his own right, mentioned about as often as Hippocrates,⁴⁴ in *On the Elements according to Hippocrates*, Aristotle is presented as a *follower* and *exegete* of Hippocrates:

Quite properly, then Hippocrates said that all those who said that the element is water or air or fire or earth 'put on its feet' Melissus' argument, even though it is frightfully absurd and contradicts all clear evidence, so that it does not even need to be refuted. Aristotle too spoke at some length about its absurdity in the first book of the *Physics*. And indeed Aristotle appears to have cast his arguments in the same form as Hippocrates. . . . It is immediately clear that those who say that what is is one destroy the first principles both of natural science, as Aristotle said, and of medicine, as Hippocrates says. Natural science is concerned with bodies that come into being and pass away and, in short, with bodies that change; if being is one only, these things are eliminated. It is the same with medicine, first of all from the fact that medicine is the handmaiden, as it were, of coming into being and

⁴³ On Galen's recognition of the importance of *On Mixtures*, see van der Eijk 1997: 42 n. 19.

⁴⁴ Aristotle is mentioned twelve times (for references see index in Helmreich 1907–9), and his work *On the Parts of Animals* is quoted (I.566, 36.5 Helmreich); Hippocrates is mentioned thirteen times, but one of these is in a reference to the title of Galen's treatise *On the Elements according to Hippocrates* (e.g. in I.509, 1.6 Helmreich).

passing away; if it is not granted that these exist, medicine too is destroyed along with them. . . . It appears, then, that Aristotle and Hippocrates have ordered their arguments in the same way but that the commentators do not understand them. (*Hipp.Elem.* I.447–53; tr. De Lacy, CMG V.1.2, 92.9–96.2).

So Hippocrates and Aristotle are in fundamental agreement, with the latter supplying the exegesis and the demonstration (*apodeixis*) of Hippocrates' insights and the technical bio-chemical detail that is 'beyond what is relevant to the art of medicine'.⁴⁵ The suggestion of a division of labour between the physician and the natural scientist returns later in the same work, in a passage where Galen recognises that the Hippocratic treatises leave something to be desired as far as the exposition of the mixtures is concerned, but where Galen is nevertheless only too ready to forgive Hippocrates and to explain the absence of physiological technicalities, detail as a result of a deliberate strategy on Hippocrates' part, leaving it to the natural scientist Aristotle to provide more detail.⁴⁶

More frontal attacks on Aristotle appear in the context of anatomy and physiology, especially the nervous system and the roles of the brain, the heart and the liver. First, a passage from *PHP* is worth quoting at some length because it provides an illuminating example of the kind of criticism Galen expresses:

Let us now . . . return to Aristotle, since he too says that the nerves come from the heart. He spoke twice of the origin of the nerves in a confused and imprecise way. . . . Thus Aristotle's remarks in the third book of his treatise *On the Parts of Animals* were quite unworthy of him. I shall transcribe the actual passage . . .⁴⁷ But not only did Aristotle fail to demonstrate that the heart is this member; his argument is not even plausible, unless he actually supposes that the presence of a large number of nerves in the heart is sufficient token that (the heart) is source of the nerves. . . . But since the heart does not even have a large number of nerves, Aristotle's position becomes even more absurd. There are in it certain nerve-like strands, but we cannot go so far as to call them nerves. And this could be demonstrated at no great length on Aristotle's own principles. Thus it was he

⁴⁵ Similar remarks about the agreement between Hippocrates and Aristotle on the point of the elementary qualities, mixture etc., sometimes also including the Stoics and Plato, can be found in *Nat.Fac.* II.5, II.8, II.12, II.89; *MM* X.14–16; *HNH* XV.37.

⁴⁶ '[I]t is not necessary for physicians to understand how things that are mixed are mixed through and through, whether the mixtures are of qualities only, as Aristotle supposed, or of corporeal substances that pass through each other; that is why Hippocrates said nothing about these matters but was content with the mere fact that the elements are mixed in their entirety. This fact we need for the treatise *On Mixtures*.' (*Hipp.Elem.* I.489; tr. De Lacy, CMG V.1.2, 136.15–20).

⁴⁷ Galen quotes *PA* 666b14–16: "The heart also has a large number of nerves, and reasonably so, for movements begin from it and are carried out by pulling and slacking; therefore it needs service and strength of this sort." Now it is clear to all that the member of the body which encloses the soul's source "needs service and strength of this sort".

who taught us to look to the action and use of every organ, not to its structure, when we investigate its 'being'. . . . [S]ince I am answering Aristotle, who himself recognised this fact long before our time, I need only mention what he said in the second book of his work *On the Soul* and in his work *On the Parts (of Animals)*, his intention being to distinguish identity and difference in organs by their actions and uses, not their bodily form. If the organ is the instrument of sight, it is an eye, even though it is differently constructed in men and in crabs; if it is the instrument for walking, it is a leg, whether it happens to belong to an elephant or a goat or a sheep or a man. But if that is so, dear Aristotle, then you must differentiate a nerve not by its bodily form as the majority, who are untrained in reasoning, do but by its action and use. (*PHP* V.200–203, tr. De Lacy, with italics added, *CMG* V.4.1.2, 90.26–94.10).

This passage displays carefully crafted rhetoric. Aristotle is being lectured for failing to live up to what Galen regards as some of his own key principles, namely accuracy (*akribeia*), rigour in demonstrative reasoning (*apodeixis*) and the determination of the essence (*ousia*) of bodily parts by referring to their function or usefulness (*ergon*, *khreia*) as well as their form. The criticism culminates in a transition from a report in the third person to a direct address of Aristotle himself (*Aristoteles philtate*).

This criticism of Aristotle's shortcomings in what is, according to Galen, one of Aristotle's own major strengths, that is, teleological explanation, is continued with greater force in Galen's other major work, *On the Function of the Parts*.⁴⁸ To be sure, Galen here often gives abundant praise to Aristotle for having correctly and illuminatingly given account of the craftsmanship of nature.⁴⁹ Yet there are also a number of subtle criticisms of Aristotle. Let us first consider a passage in which Galen addresses the question why he wrote the work at all, considering Aristotle's (and Plato's) achievements in teleological explanation of natural things. Plato, presented here as the most faithful follower of Hippocrates, and Aristotle, always keen to praise Nature's craftsmanship, are both found to be insufficiently comprehensive, and this is demonstrated by the example of the fingernails, for which neither of the two thinkers took the trouble to provide a correct teleological account:

Now why, pray, did Plato, although he was a follower of Hippocrates if ever anyone was and took the greatest of his opinions from him, speak so slightly of the usefulness of the fingernails? And why did Aristotle, who was very clever

⁴⁸ But it is not restricted to this work: see Galen's criticism of Aristotle's failure to state the right purpose of the diaphragm in *On Affected Parts* VIII.328; see further below for examples from *On Semen*.

⁴⁹ See e.g. *UP* III.81 (I.59 Helmreich); III.177 (I.130 Helmreich); III.328 (I.241 Helmreich); III.496 (I.361 Helmreich); III.607 (I.441 Helmreich); III.848 (II.117 Helmreich); III.896 (II.151 Helmreich); IV.160 (II.298 Helmreich); on Galen's overall attitude to Aristotle's *PA* see Moraux 1985a.

at explaining the workmanship of Nature and so forth, overlook so much of their usefulness? . . . But Aristotle says that nails were formed for protection, though he does not say from what they were to give protection, whether cold, heat, wounds, or bruises. In fact, it is impossible to entertain the notion that they were formed for the sake of protection against these or any other things. I have mentioned Aristotle and Plato not because I wished to confute what they have said wrongly, but in order to point out why I have felt impelled to begin a discussion of these matters. . . . I have mentioned them here, however, only to show why I have undertaken this treatise on the usefulness of the parts when Aristotle has written so fully and so well on this subject, and no small number of other physicians and philosophers . . . have also expressed themselves well, though perhaps more briefly than Aristotle. Nor are the writings of Hippocrates adequate, since he treats some subjects obscurely and omits others altogether, though in my estimation, at any rate, he has written nothing that is incorrect. For all these reasons, then, I have felt moved to write a complete account of the usefulness of each of the parts. (*UP* III.16–21, I.11–15 Helmreich, tr. May).

It is striking to see that in this final part of the quotation, even Hippocrates' account is labelled as insufficient, although Galen hastens to insist that he has written nothing that is incorrect. The latter cannot be said of Aristotle: as a later passage shows, apart from not being sufficiently consistent and comprehensive in his application of the teleological perspective, Aristotle is criticised for his complete failure to grasp the purpose of the brain and the nervous system:

Others who hold this doctrine (that is, that the brain is there for the purpose of refrigeration of the heart) are less to be wondered at, but it is impossible not to be altogether amazed at Aristotle, who does not neglect the things to be seen in dissection, who is not untrained in their usefulness, who says himself that some questions require solution, others correction, and still others the testimony of the senses, and who yet is found distrusting his sense perceptions and unmindful of himself. For the brain is always discovered to be warmer to the touch than the air around us, but Aristotle says it was formed to cool the heat of the heart, and he forgets that he himself has said that respiration takes place for the sake of this cooling; it is right, however, to praise him when, following Hippocrates, he gives a true account of the usefulness of respiration. (*UP* III.620, I.449 Helmreich, tr. May).

In other words, Aristotle should have known better: he should have realised that the purpose of cooling is already fulfilled by respiration, so that there is no need for a further cooling agent in the body. However, Aristotle has 'forgotten' this and failed to apply this awareness to the question of the usefulness of the brain; and even though he was correct about the usefulness of respiration, that correctness is ultimately due to Hippocrates' influence. In what follows, Galen continues by criticising Aristotle for more blatant

errors; and after lecturing him on some very basic anatomical structures, his criticism once again finds its rhetorical climax in an emphatic *apostrophe*:

‘But,’ says he, ‘Not all the instruments of the senses extend to the brain.’ Aristotle! What a thing for you to say! (*Ti touto legeis, Aristoteles*) For my part, I am certainly ashamed even now to mention the subject. Does not a nerve of considerable size along with the membranes themselves enter each ear? Does not a portion of the brain much larger than that proceeding to the ears come to each side of the nose? Do not one soft nerve and one hard one come to each eye, the former inserted into its root and the latter into the muscles moving it? . . . Of none of these parts has Aristotle attempted to tell the usefulness, any more than those who think the brain is the source of everything attempt to tell the usefulness of the parts of the heart. For if the brain were formed only for the sake of refrigeration, it would have to be like a sort of sponge, inert and formless, having no very skillfully contrived structure, and if the heart is not the source of the arteries and innate heat, it should not exist at all, let alone have a complex structure. In both these examples of prodigious wisdom there is something marvellous to be detected, particularly in the fact that these men not only deprive the brain of being the source of the nerves or the heart of being the source of the arteries, but also declare one or the other part to be completely without usefulness. Some, like Philotimus, confess it openly, and others, like Aristotle, imply such an opinion by circumlocution. For when a person says that the only characteristic of the brain is one which is not by any means present in it at all, and considers that it was not formed for the sake of any of its other characteristics, he is obviously accusing it of being completely without usefulness, though he is ashamed to say so openly. (*UP* III.623–5, I.451–3 Helmreich, tr. May).

The rhetoric is strikingly similar to what we have seen before: Aristotle is criticised here for ‘implying by circumlocution’ (*en kuklōi periechomenoi*) that the brain has no ‘usefulness’ (*khbreia*, Galen’s term for Aristotle’s *telos* or *to hou heneka*), but being ‘ashamed to say so openly’ (*phanerōs d’ homologein aidoumenos*): once again, the suggestion is that, whereas one could expect such errors from other medical writers, Aristotle has no excuse: he should have known better.

ARISTOTLE VERSUS THE ARISTOTELIANS

A final aspect of Galen’s attitude to Aristotelian thought I should like to mention is his distinction between the teaching of Aristotle himself and that of the Peripatetics of Galen’s own time. We already saw in the passage from *On Mixtures* above (n. 24) that Galen sometimes defends his own, true, reading of Aristotle from that of other exegetes – something that indicates that Aristotle’s authority was nevertheless of considerable importance to

him. This interpretative battle acquires even greater venom in confrontation with rival Peripatetics of his own day:

So now, although the books preceding this one were written long ago and were tested over many years by the best men of the Peripatetic and Stoic schools, suddenly a Peripatetic has appeared who says that the structures that pass up from the heart to the brain and the meninges are membranes, by which the psychic power is transmitted. This argument comes, moreover, from a man who has no familiarity whatever with anatomy. (*PHP* V.591–2, tr. De Lacy, *CMG* V.4.1.1, 432.10–18).

Who this Peripatetic is we do not know,⁵⁰ but he is representative of the combination of failure to abide by the strengths of the intellectual tradition one is part of (in the case of the Peripatetics, their sense of logic) and ignorance of anatomical discoveries, a combination that Galen regards as typical of the Peripatetics.⁵¹ It finds a powerful expression in Galen's sustained vilification of the Peripatetics in his work *On the Seed* (*De semine*). This is probably the most vehemently anti-Aristotelian treatise in the Galenic corpus. As has been shown by Preus, Boylan, Kollesch and recently by Accattino^{51a}, the reasons for this lie partly in the profound disagreements that divide Galen and the Aristotelians over fundamental issues such as the question of the nature of the female contribution to the generative process, the mechanism by which the 'form' (*eidos*) or 'power' (*dunamis*) of the male seed is transmitted into the uterus without the seed itself constituting any part of it in a material sense and the role of the testicles. The disagreement also lies in the grounds on which the respective positions are held: Galen simply cannot believe the stubbornness and stupidity of the Aristotelians of his own time, who fail to take on board the anatomical discoveries of Herophilus and others. Some passages illustrate this criticism poignantly:

I have mentioned these matters on account of certain present-day philosophers who give themselves the name of Aristotelians and Peripatetics. For my part I would not call them by those names; they are so ignorant of Aristotle's view that they think he held that the male semen which is injected into the uterus of the female imparts a beginning of motion to the menstrual blood but is thereupon excreted, becoming no part of the bodily substance of the fetus. They have been misled by the first book (of the treatise) *On the Generation of Animals*, which alone

⁵⁰ For a discussion see De Lacy's note ad loc. at 1978–84: 673.

⁵¹ In this regard it is striking to see Galen's criticism of some Aristotelians of his own day trying to 'update' the cardiocentric position in the light of new anatomical discoveries (*PHP* V.587, *CMG* 4.1.2, 428 De Lacy); see Vegetti 1999b, 336.

^{51a} Preus 1997; Boylan 1984; Kollesch 1987; Accattino 1994.

of the five they appear to me to have read. . . .⁵² This passage (736a7–16), then, convicts both groups of ignorance of Aristotle's view, both those who believe (his view to be) that the semen is always excreted to the outside, and those who believe (it to be) that the semen does become a part of the embryo; and the second of these groups receives also a separate refutation in the passage from the first book next after the one quoted above, in which (Aristotle) began with these words (*GA* 729a9–11) . . . (*De semine* IV.516–19, tr. De Lacy, CMG V.3.1, 68.3–70.14).

Galen lectures the Aristotelians by quoting extensively from Aristotle's *Generation of Animals* – once more strong evidence of his close familiarity with the Aristotelian text – to show that they have got it wrong, that they have not read the text properly and that their appeal to the writings of the Master is misguided. Yet this is only an introduction to an even more sustained attack on the Master himself; having disposed of the views of the Aristotelians, Galen subsequently turns to Aristotle's own views, especially his idea that the semen 'is dispersed and evaporates' in the uterus, where Galen criticises Aristotle again in sharp terms for failing to apply his own teleological principles.⁵³

⁵² Galen here analyses the Aristotelians' interpretation of a number of passages from Aristotle's *GA*, from which he quotes extensively, and points out their interpretative mistakes: 'It contains the following passage: "For as we said, one might posit as not the least principles of generation the female and the male, the male as having the principle of motion and generation, the female (the principle) of matter." (*GA* 716a4–7). This passage is not far from the beginning. Further on in the work he also writes as follows: "But it happens as is reasonable, since the male provides the form and the principle of motion, and the female the body and the matter, just as in the curdling of milk the milk is the body and the fig-juice or rennet is that which possesses the coagulating principle" (*GA* 729a9–13). Taking their start from these passages, some think that, after the semen has provided to the menstrual blood the principle of motion, it is in turn ejected again; but some (of them) assert that he does not say what all of us who take his words in the natural way thought he was saying, but rather that the female contributes only matter to the fetus-to-be, whereas the male contributes matter and also form. So one of them thought us utterly ridiculous if we should suppose that (on Aristotle's view) the semen is discharged back again to the outside by the female, or that while remaining within it is dissolved into nothing. For this, they say, is what follows if we think that its bodily substance is not mixed and blended with the matter of the fetus. We shall therefore point out to both groups together the following passage from the second book *On the Generation of Animals*: "Next after this there is a difficulty to be explained: if, when the semen is released into the female, that which has entered is no part of the fetus that is being formed, where does its bodily nature go, if indeed it is efficacious by virtue of the power residing in it?" (*GA* 736a24–27) Then after next making certain distinctions with regard to soul and mind, at the end of the passage he writes these words: "The body of the semen, in which the seed of the psychic principle comes – one kind being separable from body, the kind in which something divine is contained, and what is called mind is of that description, another kind inseparable, the seed from the semen – is dispersed and evaporates, as it has a moist and watery nature. Therefore one should not expect it always to be discharged to the outside or yet to be a part of the resultant form, just as one would not expect this of the fig-juice that curdles the milk; this latter also changes and is no part of the curds that are formed". ' (*GA* 736a7–16).

⁵³ These criticisms have been studied in detail by Preus 1977, Kollesch 1987 and Accattino 1994. They broadly confirm the picture of the type of arguments and the rhetorical techniques used

CONCLUSIONS

Our discussion has obviously been selective, and the examples cited can easily be multiplied.⁵⁴ They show consistent tenets in Galen's attitude to Aristotelian thought. Of course, they are not unique to Galen's polemics against Aristotle – indeed, they are not even unique to Galen: criticising another thinker for inconsistency, self-contradiction or failure to live up to his own principles in specific areas of his thought, or for ignoring the manifest evidence, or for drawing wrong conclusions from correct observations, are standard rhetorical procedures suitable to many polemical situations. It is true that some aspects of Galen's attitude to Aristotelianism can be paralleled with his attitude to other thinkers, most notoriously Erasistratus and the Erasistrateans. The reason for this is not difficult to see, for Erasistratus and his followers were often associated with Aristotle and the Peripatetics. Although Galen recognises that Erasistratus at least improved upon Aristotle in arriving, towards the end of his life, at the correct view concerning the origin of the nerves as opposed to Aristotle's stubborn refusal to assign any cognitive purpose to the brain,⁵⁵ some of the criticisms Galen makes of Erasistratus could equally well apply to Aristotle,

in other treatises: *apostrophe*, criticism of going against one's own principles, lawcourts metaphor, citing extensively from Aristotle's writings in order to 'remind' him of things he has 'forgotten', reminding him of things he has, or could easily have observed, etc. ('Well then, o most wondrous man, [*ō thaumasiōtate*], is it your opinion that nature fashions these vessels from blood, or from semen? . . . There is no need to prolong the discussion or to bring in testimony from the outside when conversing with Aristotle; as much as he assigns to the many first principles that he has laid down, he does not deny to semen the role of craftsman in its relation to the fetus . . . Then, dearest Aristotle, we must not pass over an accusation of such magnitude against the nature that you praise, that right at the start it is working to no purpose . . . In those matters I would bring a just complaint against Aristotle, not only that he overlooked what he should not have overlooked, but also that he has forgotten his own teaching and explains the working of nature differently in plants and in animals. . . . Here again, dearest Aristotle, I shall remind you of your own words. . . . It is no surprise that others were ignorant of such matters, but Aristotle should not have been, since he himself has said to us on many occasions that small parts become causes of the greatest alterations in the whole body. He should have added only this . . . Surely Aristotle should have made this a major problem in the first book *On the Generation of Animals* . . . Aristotle should have looked at the convolutions of the ivy-shaped vessels and first tested the matter with external visible things, if he was not able to comprehend it by reasoning. . . . Let us now leave behind the observations from anatomy and let us remind Aristotle, as a natural scientist, of his own views. . . . let us base our reasoning on what is clearly observed, taking as an additional premise something from the things demonstrated by us in other works and conceded even by Aristotle. . . .' (*De semine* IV.528–34, 544–5, 553–4, 573–6, 578, 580–3, tr. De Lacy, CMG V.3.1).

⁵⁴ See e.g. Galen's discussion of vision in *PHP* V.637–44, summarised by Vegetti (1999b) 354 n. 91: 'Aristotle is accused of committing an "absurd" (*alogos*) change of theory by abandoning "the true *doxa* of his own" and accepting a false one that is somebody else's. By doing so Aristotle also detracts from the *pistis* from the books of the *Problēmata*.'

⁵⁵ *PHP* V.646–7 (CMG V.4.1.2, 476.31–478.6 De Lacy).

especially when it comes to the issue of teleological explanation.⁵⁶ Likewise, Galen sometimes criticises the Erasistrateans for failing to keep to the doctrines of their master, or for the inconsistency between their appeal to Aristotle on the one hand and their failure to keep to the doctrines of Aristotle on the other. By contrast, the hostility that Galen displays here is something one never finds him displaying towards Plato, Hippocrates or even Posidonius.

So what are the reasons for this attitude? More work is needed, but I would provisionally suggest they are threefold. First, Aristotle and Galen differed too radically on fundamental issues – the most important one being the role of the brain vs. the heart, and everything associated with it: the tripartition of the soul, the role of the liver (rather than the heart, as Aristotle believed) in being the origin of blood and the veins (Aristotle did not distinguish between veins and arteries or between the heart as the source of the arterial and the liver as the source of the venous system), the role of the brain and the nervous system. These differences of opinion were so fundamental that they must have presented insurmountable obstacles to a warmer relationship between the two thinkers.

A second possible reason, I suspect, is that, paradoxically, Aristotle and Galen shared perhaps too much common ground for Galen to stand out (more at any rate than Hippocrates and Plato). For whereas Galen on some occasions likes to appeal to the authority of earlier thinkers, he also has a habit of (sometimes demonstrably mis-)representing some earlier thinkers (such as the medical writer Diocles) as failing to make the points which Galen himself is proud to make.⁵⁷ Aristotle may have been too formidable an authority for Galen to associate himself with; and for that reason Galen, not uncharacteristically, tries to play down the influence of Aristotle on his own works.

The third reason seems to have to do with the Aristotelianism of Galen's own time, to which he is never entirely sympathetic and which he perhaps had good reasons not to want to be associated with. Galen must have felt that, at least in his own time, the authority of Hippocrates and Plato was a more effective tool to promote his own case than that of Aristotle. To be sure, there were also 'the Hippocrateans' in his own day with whom he often takes issue, and he is not uncritical of certain interpretations of Plato; but the difference here is that, in Hippocratism as well as Platonism, there was already a greater plurality of strands of thinking, so that the

⁵⁶ For discussions of this see the references in n. 28 above.

⁵⁷ See van der Eijk 2000–1: II.xiv.

dismissal of one particular brand of Hippocratism or Platonism would not automatically imply a rejection of the whole tradition. By contrast, the Aristotelianism of his own time was probably more uniform and less diverse, and also – at least in Galen's eyes – more aggressively backward, especially in its cardiocentrism, which was defended by Alexander of Aphrodisias and other Peripatetics with great fervour in spite of the empirical and indeed experimental arguments advanced by Galen and, before him, by Herophilus and Erasistratus.

*Galen and the Stoics, or: the art of not naming**Teun Tieleman*

AIM AND METHOD

This chapter is entitled ‘Galen and the Stoics’ not ‘Galen and Stoicism’. Its chosen title is intended to convey that it is my purpose to approach Galen’s relations with the Stoa as it were from the outside. My main concern will not be with his response to the doctrines of great dead Stoics such as Chrysippus,¹ nor with the conceptual relationship between his system of medicine-cum-philosophy (or parts of it) and Stoicism.² Instead I shall be focusing on questions of a different kind. What were Galen’s relations with the Stoics of his own day? Who were these Stoics?³ Further, in addition to Stoic persons, books by Stoics are what interest me: which did Galen know and read? Were there other sources of information on Stoic philosophy on which he drew? Answers to these questions will, I believe, contribute to the study of the presence of Stoicism in Galen’s work – a vast subject – and on occasion I shall not refrain from indicating how this may be the case. A few words on the state of scholarly debate may serve to justify this approach.

A quick look at the index of sources in von Arnim’s *Stoicorum Veterum Fragmenta*,⁴ still the standard collection of early Stoic fragments, suffices to show that Galen’s dealings with Stoicism were extensive and long-standing. Von Arnim was not mistaken about this.⁵ The documented evidence is not

¹ As in Tieleman 1996a and 2003a.

² See Manuli 1993; Gill 2007.

³ On the general state of knowledge about Stoic philosophers in the Imperial period see Barnes’s appraisal: ‘... the early imperial period was thick with philosophers, and in particular with Stoic philosophers. We know a little about some of these Stoics ... But most of them are no more than names’, Barnes 1997a: 5. Barnes presents a catalogue of Stoics in n. 19 on the same page. On the history of the Stoic school in the Imperial period see also the survey offered by Gill 2003.

⁴ Three volumes 1903–5. The indices were compiled by Max Adler and published as volume IV in 1924.

⁵ In addition to the ‘early Stoic’ material in *SVF, On Affections* by Posidonius of Apamea (155–135 BC) was used by Galen in *PHP* IV–V. See also fragments 30–5 (with explicit attribution to the *On Affections*) and 150–87 (attribution to Posidonius only) in Edelstein and Kidd’s 1972 collection. Note

only extensive but also variegated in nature, ranging from verbatim quotation to unacknowledged borrowing and allusion. Further, Galen's response to Stoicism fluctuates from tract to tract and sometimes even within one and the same tract, ranging from polemic and dismissal to honorific mention and praise.⁶ Clearly his attitude should be studied work by work and indeed passage by passage before general conclusions can be formulated.⁷ This study involves not only Galen's use of the works of past authorities such as Plato, Aristotle and Chrysippus but the synchronic context as well: contemporary opponents and teachers as well as his intended audience. He often takes issue with his contemporaries by way of the work of these authorities.⁸ His readings of these classical texts, then, will often be conditioned by the terms of the contemporary debates in which he took part. These debates have to be carefully reconstructed, and their participants identified, on the basis of such sparse information as is provided by Galen and a few other sources. A special problem is indicated by the second title of this study: Galen is extremely sparing with the names of his contemporaries, both those whom he attacks and those whom he follows.⁹ As we shall see, he makes no exception for the Stoics. Yet there are a few precious occasions when Galen, almost in spite of himself, provides an intriguing glimpse into the Stoic scene of his day.

that most of the material printed by Edelstein-Kidd does not consist of verbatim quotation but of paraphrase and discussion by Galen. For discussion and further literature see Tieleman 2003a: ch. 6.

⁶ Galen's divided (or so it seems at first sight) attitude towards Stoicism is the starting point for Gill 2007.

⁷ For Galen's treatment of the early Stoic doctrine of the soul and its emotions in *PHP* Books I–VI see Tieleman 1996a and 2003a. For his use of Stoic causal theory in *CP* see Hankinson 1998. For his dealings with the Stoa and Stoics in *Foot. Form.* see Nickel 1993. For surveys involving more Galenic treatises see Manuli 1993 and Gill 2007.

⁸ See Lonie 1964 (Erasistrateans), Nutton 1991: 17–18 (Methodists in *MM*), Tieleman 2003b: 341 (Platonists).

⁹ The practice of not naming contemporaries, notably one's opponents, can be paralleled from other authors of about the same period. Striking examples are two treatises entitled *On Fate*, one by Alexander of Aphrodisias, the other by ps. Plutarch. Both authors direct a sustained polemic against the Stoics in particular, whom they refer to as 'certain people' or similar terms. On this feature see Thillet 1984: LXXXII ff. (though I am unconvinced by his suggestion that political motives must be involved). Indefinite pronouns are also used by Diogenes Laertius in his preface (I, 1) to refer to those (apparently Jewish-Christians intellectuals) who deny the Greek origin of philosophy. Likewise Galen goes unmentioned in the final chapter of Alexander of Aphrodisias' *On the Soul*; see Tieleman 1996b. By this time this practice may have become legitimated by convention, but it may have originally been motivated by a reluctance to immortalise one's contemporaries by mentioning them by name. Meanwhile the intended readership could be counted upon to know who was meant. Galen's silence on many of his contemporary opponents is matched by that on his teachers; e.g. think of his striking silence on his extended period of study in Egypt in the 150's: see Nutton 1993, who submits that, given the intensely competitive medical scene of his day, it was not in Galen's interest to acknowledge his intellectual debts.

In sum, the subject of Galen's relation to Stoicism is as vast as it is complicated. Modern scholarship is only beginning to explore this area in a systematic fashion. Given this situation it seems useful to make an inventory of the evidence relating to Galen's contacts with the Stoics of his own day. In doing so I shall keep to a loosely chronological order, starting from Galen's days as a young student and ending with his response to Stoics in old age. I append a survey of passages relevant to Galen's readings of Stoic literature. In conclusion I shall attempt to summarise my findings.

GALEN'S EDUCATION

Galen's first recorded encounter with a Stoic is to be found in this passage from his *The Passions of the Soul*:¹⁰

The education I received under the supervision of my father was of the following kind. Having turned fifteen, I attended the lectures of Pergamene philosophers: those of a Stoic, a pupil of Philopator, for most of the time, but those of a Platonist, a pupil of Gaius, for only a brief period since he had no more time to lecture. This was because his fellow-citizens pressured him to take upon himself political duties since he was the only one who seemed to them to be just, incorruptible, accessible and kind. At that time another compatriot of ours arrived after an extended sojourn abroad, a pupil of the Peripatetic Aspasius,¹¹ and after him another one from Athens, an Epicurean. (*Aff.Dig.* V.41 = *CMG* V.4.1.1, 28)

Galen's revered father saw to it that he studied with representatives of each of the four main schools. He instilled in his son (so we are given to understand) an independent, non-sectarian outlook and the concomitant ideal of selecting what is best from each school.¹² Note that Galen is concerned to make it clear that he would have spent at least as much time with the Platonist as with the Stoic were it not for the circumstances mentioned. Still, not even this exemplary Platonist is honoured by a name. Like the Stoic and the Peripatetic, he is indicated indirectly, viz. by means of the names of their teachers (except the Epicurean, who is not even

¹⁰ All translations are mine, prepared with reference to recent English translations.

¹¹ It has been suggested that this Peripatetic may have been identical with the Peripatetic Eudemos of Pergamon who features prominently in Galen's account of his first sojourn in Rome (AD 162–6), see esp. *Praen.* XIV.605,18–19 = *CMG* V.8.1, 74,16–17. Cf. also *Lib.Prop* XIX.42, 47 for references to a collection of comments by Galen on Eudemos' *On Speech*. Having been cured by Galen, Eudemos introduced him to friends in high places. For discussion and further references see Nutton 1973: 159; 1979: 157–8, Schlange-Schöeninger 2003: 140–1.

¹² *Lib.Prop.* XIX.13 (*SM* II, 94.26–95.10). There is some evidence which suggests that an omnivorous study of this kind may have been more common by this time; see Donini 1992: 3483 n.1; cf. Tieleman 1996a: xviii.

indicated in this way). Indeed, Philopator, Gaius and Aspasius are known from other sources as rather prominent representatives of their respective schools. By mentioning them Galen shows his philosophical credentials.

Galen's first acquaintance with philosophy, then, was through a local Stoic and is described, albeit vaguely, as involving a period of some length. The name of Philopator must refer to the same person as is cited by Nemesius as having explicated Stoic determinism.¹³ It is a fact to be remembered when studying Galen's *The Powers of the Soul Follow the Body*. Galen there offers a strongly deterministic theory of psychological character (that it depends on bodily make-up). His interest in this theme may have been stimulated by early exposure to the teachings of Philopator on determinism.

However, what Galen remembers about the teaching of this pupil of Philopator suggests that it had mainly concerned logic, witness the following passage from his biobibliographical tract *On My Own Books*:

While still a boy my father entrusted me to someone who taught the logical theory of Chrysippus and the other Stoics of note. I made for myself notes on the books by Chrysippus dealing with the syllogism and these notes turned up later in the possession of certain people. I had left them behind in Pergamon with many other collections of notes I made as a lad, but they had been published by a servant at the request of certain people. (*Lib.Prop.* II, XIX.43, *SM* 2.II9.2–9).

These juvenile notes not intended for publication appear in Galen's catalogue of his own works under the title *Comments on the First and Second Book of Chrysippus' Syllogistic* as one of the 'Books Dealing with Disagreements with the Stoics'. The titles in this section further bear out young Galen's study of the logical treatises of Chrysippus in particular.¹⁴ From these other titles it appears that he criticised Stoic logic as useless – a stance not at all uncommon at the time.¹⁵ He appears to have adopted this attitude soon after becoming acquainted with Stoic logic and, he tells us, was at one point in danger of renouncing rational method altogether and espousing Scepticism. Just in time he discovered geometrical analysis as a

¹³ Bobzien 1998: 358–412 including the textual evidence.

¹⁴ *Lib.Prop.* XIX.48 (*SM* II. 123.10–17): *On Chrysippus' Logical Theory*, three books; *On the First Book of Chrysippus' Syllogistic*, three commentaries; on its second book, one commentary; *On the Logical Faculty* [?] *and Theory*, seven books; *On the Utility of Studies Into Syllogisms*, Book I and II; *Geometrical Analysis Is Better Than That of the Stoics*, one book. Note that the *PHP* despite its long stretches of anti-Stoic polemic is listed (*Lib.Prop.* c. XIII) among the titles pertaining to Plato's philosophy, in recognition of its overall constructive purposes.

¹⁵ This includes Stoics; cf. Barnes 1997a: 1–11 who takes the dismissal of logic as his starting point for studying the state of Stoic logic in the Imperial period. The call for practical utility was not confined to Galen either.

form of applied logic of proven utility. This made him regain his confidence in rational method.¹⁶ But he remained critical of Stoic logic insofar as it remained 'pure' and failed to contribute to solving the problems of science.¹⁷

The main facts about Galen's education during the late 140s and early 150s are well known and have been adequately described by others.¹⁸ His father made him study medicine as well. After a protracted period of study, which brought him to Greece and Egypt, Galen returned to Pergamum where he obtained the honourable position of physician of the gladiators. No contacts with professional Stoic philosophers can be established for this period. But in these years he may have become acquainted for the first time with the work of the physician Aeficianus, who interpreted Hippocrates in the light of Stoic philosophy. I shall discuss the evidence for the influence exerted by this Stoic, or Stoicising, doctor upon Galen in the section on the Second Roman Period below.

THE STOICS OF ROME

The next set of passages to be considered come from *On Prognosis* and *On the Doctrines of Hippocrates and Plato*, all of which concern Galen's first Roman sojourn (AD 162–66). In the former work, Galen recounts how he swiftly achieved fame as a medical practitioner and theorist. He describes bitterly how the doctors and philosophers of Rome reacted to his rise with jealousy and slander. Galen illustrates his difficulties by recounting what 'happened at the enquiry I held with the Stoics and Peripatetics' and 'the debate with the Stoics and Peripatetics'.¹⁹ What follows is the rather well-known account of the anatomical demonstration Galen was invited to give before an audience of highly placed Romans, doctors and philosophers (*Praen.* XIV.626–30 = *CMG* V.8.1.94, 24–100.6). Before he could start off, the Peripatetic philosopher Alexander of Damascus raised the issue of the reliability of the senses, thus posing as a Sceptic as well as obstructing what they had all come to watch. Galen made the dramatic gesture of walking out, Alexander was reprimanded, and another occasion for Galen's demonstration was arranged. Galen impressed his audience by conducting an experiment in vivisection concerned with respiration and speech, demonstrating that these functions are operated by certain nerves

¹⁶ *Lib. Prop.* XIX.39–40 (*SM* II.116.12–117.16).

¹⁷ Cf. *PHP* V.224 (*CMG* V.4.1.2, 114.1–10).

¹⁸ Nutton 1973; 1993; 2004, Swain 1996, Schlange-Schöningen 2003.

¹⁹ *Praen.* XIV 625–6 (*CMG* V.8.1.94, 20–5).

starting from the brain. The brain, then, is the seat of the 'regent part of the soul', that is, in humans, the intellect. Thus Galen refuted the cardio-centric theory of both the Peripatetics and the Stoics. Unfortunately Galen withholds the names of the Stoics present, let alone providing information about the nature and extent of his relations with them. Things are rather different on the Peripatetic side. Named Peripatetics play a prominent role in Galen's story. The person who had invited him to conduct his demonstration was Flavius Boethus, a consular with a 'great interest in art and learning', who had the said Alexander as his teacher of Peripatetic philosophy (*Praen.* XIV.627 = *CMG* V.8.1.5, 9.96.7–8). To this potential patron Galen had been introduced by the Peripatetic Eudemos of Pergamon after he had successfully cured the latter. It is a fair assumption that Galen, upon arriving in Rome, had turned to this compatriot for guidance. It has been suggested that Eudemus was a friend of Galen's family and perhaps identical with the Peripatetic philosopher who had taught young Galen in Pergamon (see above, n. 11 and associated text). However this may be, in Rome Eudemus not only offered him advice and moral support but also recommended him to important persons such as Flavius Boethus, who in turn was to introduce him to the Emperor Marcus Aurelius, a Stoic to whom I will turn later (see section entitled The Stoic Emperor).

Clearly these Peripatetics occupied a position in Roman society that enabled them to further Galen's career as a medical practitioner. Moreover, they took a sincere interest in Galen's theoretical work. Boethus encouraged Galen to write his *Function of the Parts*, a work clearly inspired by Aristotle's *On the Parts of Animals*. So Galen treated them with respect and repeatedly mentions them by name in *On Prognosis*. In his account of the tumultuous anatomical demonstration he glosses over the fact that it proves Aristotle wrong, which may mean that he spares the Peripatetic sensibilities of his patrons.²⁰ I assume that men such as Boethus (who after all took Galen's side against his own teacher Alexander) were willing to accept the implications of what Galen had shown. Their being 'Peripatetics' does not appear to involve a sharp division between them and Platonism as opposed schools. About his opponent Alexander, Galen tells us that he was 'also knowledgeable about the doctrines of Plato, though more inclined towards those of Aristotle' (*Praen.* XIV.627 = *CMG* V.8.1.96, 9–10). His Sceptical attack on Galen seems to have been a localised response to the latter's experiments.

²⁰ A fact noted by Lloyd 2008.

In *On Prognosis*, as we have noticed, the Stoic response is passed over in silence but can be gleaned from the theoretical work that reflects the discussions Galen had at this time with the Peripatetics and Stoics of Rome, that is *PHP* Books 1–6. Here Galen is explicit about the fact that demonstrations such as described in *On Prognosis* refute the cardiocentric position of Aristotle as well as that of most Stoics. However, it is the Stoic Chrysippus who is clearly his main butt. Aristotle is presented as having disposed of the right method but having failed to apply it properly. It was the great Aristotle on a bad day.²¹

It is in *PHP* that we meet again the Stoics of Rome but, alas, they again remain anonymous. However, what Galen tells us about his discussions with them nicely shows how they motivated his singling out particular tracts and passages for refutation. Thus at *PHP* V.241 (*CMG* V.4.1.2, 128.32–4) he reports that Zeno's argument concerned with rational speech was admired by the Stoics of his day.²² He then sets out to refute this argument at length, on both logical and anatomical grounds (*ibid.* V.241–63). As to the latter, he appeals to the same experiment that he refers to in the fifth chapter of *On Prognosis* (see above). With regard to the logical side of his refutation, it is worth noting that he found Zeno's argument included in two treatises by later scholars, namely Chrysippus' *On the Soul* (his main target of attack in *PHP*) and Diogenes of Babylon's *On the Regent Part of the Soul*, which opened with Zeno's argument.²³ Both of them also presented their own, more expansive, versions of Zeno's characteristically concise argument. Later on in the same chapter Galen explains the reason why he included three versions of one and the same argument: one of the Stoics (no name) had disagreed with him over the meaning of the verb *χωρεῖ* ('passes') in Zeno's argument.²⁴ The details of this dispute need not detain us. Galen employs effectively the versions by Chrysippus and Diogenes to show that his refutation is based on a correct reading of Zeno's argument. What is

²¹ *PHP* V.188 (*CMG* V.4.1.2, 80.21–82.1), 200–3 (*CMG* V.4.1.2, 1.90.26–15.10).

²² *PHP* V.241 (*CMG* V.4.1.2, 128.32–4): 'Further the argument of Zeno that is admired by the Stoics, which Diogenes of Babylon wrote down right at the outset of his *On the Regent Part of the Soul* contains no ground for admiration except for the proposition I just mentioned. You will see this more clearly if I transcribe it. It goes as follows: "Speech passes through the windpipe. If it were passing from the brain, it would not pass through the windpipe. Speech passes from the same region as rational discourse. Discourse passes from the intellect. Therefore the intellect is not in the brain" [sc. but in the heart].'

²³ See preceding note. It appears that Galen had read Zeno's argument only in these treatises by the latter's successors, that is to say, that he had not seen the (unidentified) Zenonian treatise in which it had originally been embedded. By this time Zeno's treatises were already extremely rare and even Galen's Stoic interlocutors may not have seen it. The fact that Chrysippus and other later Stoic authors took their starting point from Zeno's definitions and arguments and quoted them may have promoted this development.

²⁴ *PHP* V.243–4 (*CMG* V.4.1.2, 132.5–10); see n. 22 above.

shown by these passages from *PHP* II supplements the picture emerging from *On Prognosis*. Not only did Galen converse and debate with Stoics and others on the occasion of anatomical demonstrations: authoritative books were involved in the discussion as well, notably the works just mentioned by Chrysippus and Diogenes. It may seem surprising that Diogenes still played a prominent role in a physical debate such as that about the seat of the intellect within the body. But, as I have argued elsewhere, there is some evidence from outside Galen's work that Diogenes continued to enjoy authority on physical matters.²⁵

A passage such as *PHP* V.243–4 (*CMG* V.4.1.2, 132.5–10), bearing witness to a debate on an exegetical point, is rare and indeed unique in *PHP*. Still we are permitted to use this and other passages²⁶ in support of the assumption that Galen's extensive discussion of Chrysippus' *On the Soul* and *On the Affections* reflect their prominence in contemporary debate. Galen's suppression of the identity of the Stoics concerned is a different matter.

THE SECOND ROMAN PERIOD

In *PHP* I–VI Galen's argument amounts to a wholesale rejection of Stoicism. It is not just that Chrysippus had been wrong on a particular matter; his method is fundamentally flawed and could not but have led him into error. In those few cases where Chrysippus says something useful, this means that he inadvertently sides with Plato against his own central thesis. These cases, then, merely illustrate the man's dialectical incompetence. As we have noticed, Galen deals far more gently with Aristotle and his followers although his argument is directed against them as well. Yet we should be alert to the fact that we are dealing with one particular context and that elsewhere Galen adopts a markedly different tone when dealing with Stoic persons or ideas. A striking example is the doctrine of the four physical elements, or elementary qualities, as presented in works from the second Roman period (AD 169–c.213). This first passage comes from the first book *On the Therapeutic Method*. Here the dialectical grouping of

²⁵ See Tieleman 1991.

²⁶ Another reflection of the contemporary situation is Galen's comment that he would never have written Book 3 were it not for the fact that 'an eminent Sophist' had challenged him to refute *all* arguments advanced by Chrysippus, since in Book 2 Galen had limited himself to what he considered Chrysippus' strongest: see *PHP* V.287 (*CMG* V.4.1.2, 168.25–170.2). It is also interesting to see him claiming at the beginning of *PHP* VII with reference to his argument in Books 1–6 (written a number of years earlier) that 'no Stoic or Peripatetic philosopher and no physician is as bold as before and some at least have publicly gone over to the true account' (*PHP* V.587 = *CMG* V.4.1.2, 428.17–21).

authorities is different from that in *PHP* I–VI in that the Stoics and Aristotle are aligned with Hippocrates and Plato. This set of authorities are opposed to the Atomists and the Methodists, notably Thessalus; but of these authorities it is the Stoics who are the most prominent:

If we were to lead the philosophers of the Stoa into the assembly and gave them too the right to vote, they will on the basis of their own tenets award the crown to Hippocrates. For Hippocrates was the first to introduce the hot and the cold and the dry and the wet, and after him Aristotle offered proofs [as to their nature]. Chrysippus and his followers (οἱ περὶ τὸν Χρύσιππον)²⁷ when accepting this doctrine as it already lay at hand did not behave in an unduly competitive manner but declared that all things were blended out of these four and these four acted upon, and were acted upon by, each other and that Nature was craftsman-like, and they espoused all the other physical doctrines of Hippocrates except for the fact that there was this difference they had from Aristotle on a minor point. (*MM* I.16).

Especially when compared with *PHP*, this is a very striking passage indeed. Galen construes a tradition starting with Hippocrates and continued by Aristotle who further strengthened the doctrine.²⁸ The Stoics in their turn took over the doctrine as transmitted by Aristotle save for one ‘minor point’ (that is, the Stoic view that the qualities are corporeal, which was in fact the subject of full-scale anti-Stoic polemic, as witnessed by such authors as Plutarch and Alexander of Aphrodisias). But in the present context Galen is concerned to tell a story of prevalent continuity and unanimity. Indeed, the passage ends with a sweeping statement about Stoic natural philosophy being derived in its entirety from Hippocrates (as mediated by Aristotle, it seems) including the view of Nature as artisan-like. All seems forgotten about the fundamental disagreement in *PHP* I–VI between Hippocrates and the Stoics about human biology.

No less remarkable is the fact that the Stoics are not merely included in the tradition of good philosophy and medicine but play the most prominent role as representatives of the good Hippocratic cause.²⁹ We should not take refuge in any developmental solution: as we shall see presently, Galen never

²⁷ Or: ‘Chrysippus’. On the sense of the expression οἱ περὶ + name see Dubuisson 1976. The third possible translation ‘Chrysippus’ followers’ cannot be correct here, see e.g. n. 28 below.

²⁸ See the phrase ‘accepting this doctrine as it already lay at hand’ said of the Stoics.

²⁹ See also *MM* I.9–10: ‘I would beg you choose Zeno, Chrysippus and all their followers. None of them, most insolent Thessalus, condemned Hippocrates’ doctrines on the nature of man...’; *MM* I.18: ‘Plato, Aristotle, Chrysippus and their followers.’ Cf. Galen, *Adv. Jul.* XVIII.257–9 (*SVF* 2.771): Zeno and Chrysippus, like Aristotle and Theophrastus, always explained diseases by reference to an imbalance between the elementary qualities or the four humours, as is proven by many passages. Cf. *ibid.* 268.

retracted the main thesis of *PHP* I–VI. The difference should rather be explained by reference to dialectical context, however much tension (if not inconsistency) this creates when it comes to comparing passages from different works. In *PHP* Hippocrates and Plato are conjoined and played off against Chrysippus; so Galen would have blurred the boundaries drawn there by pointing to their agreement over the physical elements.

The picture of the Stoic reading of Hippocrates emerging from the first book of the *Therapeutic Method* need not have been devised by Galen for this particular occasion. In fact, he seems to summarise an already available interpretation. Stoicising readings of Hippocrates may go back to the Hellenistic period.³⁰ In the present case it is more reasonable to assume that Galen draws directly on the work of Hippocratic exegetes such as Aeficianus. From the perspective of the intended audience – not so much the Methodists as all those who should be warned against them – it is interesting to reflect upon the fact that Galen chose to give so much prominence to the Stoics rather than Aristotle and Plato – another indication of the significance that was attached to Stoic physical theory at the time of writing.

An intriguing passage from Galen's late treatise *The Faculties of the Soul Follow the Body* (*QAM*) constitutes another example of Galen's favourable response to the Stoics in relation to the physical elements. This is perhaps all the more striking since this treatise in various other ways refers back to, and seems close in content to, the much earlier Books 1–6 of *PHP*:

It has now become clear to you, then, that according to the Stoics the soul's substance comes into being according to a particular blend of air and fire; and Chrysippus came out intelligent because of the well-blended mixture of these elements, whereas the sons of Hippocrates, whom the comic poets ridicule for their stupidity, were swinish³¹ because of their excessive heat. (*QAM*: 4, IV.784 = *SM* 2, 45.21–46.1 = *SVF* 2.787).

I take it that the use of Chrysippus as a clear example of a successful blend reflects what later Stoics, perhaps contemporaries of Galen, said; thus the comment is part of Galen's report of the Stoic view. Even so, we are once again far removed from the polemic in *PHP* I–VI, where Galen does not hesitate to question Chrysippus' logical competence. In *QAM* (as in *MM* I) Galen puts Stoic physical anthropology into the service of the thesis enunciated by its title (while repeating his rejection of the Stoic monistic

³⁰ See Tieleman 1999.

³¹ Reading ὑώδει (in place of ὑιούς ἐπὶ) for which emendation see Marquardt *et al.* 1884–93, *SM* 2, XLI–XLII and n. 33 below.

conception of the soul in favour of the Platonic tripartition). Here he can use what he suppressed as much as possible in the *PHP*: that the Stoics provided their psychology with a firm physical basis involving the mixture of elementary qualities and the idea of their (im)balance. Galen subscribes to this model as being Hippocratic in origin.

If we also take the reference to 'the sons of Hippocrates' (not the legendary founder of medicine but an otherwise unknown Athenian) to belong to Galen's report of the Stoic view, we may assume a literary source, perhaps Chrysippus' own *On Affections*, which also looms in the background in other sections of *QAM* and which included many literary quotations.³² These unfortunate 'sons of Hippocrates' were characters in the Old Comedy, notably the plays of Eupolis (c. 446–410 BC).³³

In the passage on the physical elements in *MM* Book I the Stoic doctrine is singled out as the most recent respectable version of the originally Hippocratic insight. Likewise in *QAM* the Stoics are the ones whose doctrine crowns the tradition of psychosomatic theorising. These facts provide an indication as to the role and status of this side of Stoic philosophy in Galen's time and for the audience for which he wrote. In some cases he could agree with the Stoic doctrine and use it for his dialectical agenda; in others he had to dissociate himself from it and do so forcefully. However, he could never ignore it. From the viewpoint of the history of Stoicism it is worth remarking that these Galenic works and passages bear out that Stoic philosophy had by no means shrivelled to the area of ethics. On the contrary, Stoic natural philosophy could extend to fairly technical questions such as that of the first organ to be formed in the embryo. In *On the Formation of the Foetus*, like *QAM* a late treatise, the Stoics again loom large as his opponents, though again they remain anonymous (except for the occasional mention of the crucial past authority, Chrysippus,³⁴ according to a by now familiar pattern). In one remarkable passage Galen criticises the Stoics for omitting to produce any anatomical evidence to support their view that the heart is the first organ to be formed. But then, he adds, this

³² See Tieleman 2003a: 149–50 and pp. 296–7 below.

³³ See Suda s.v. ὤδης 'The sons of Hippocrates were ridiculed in comedy as swinish (ὠδής) and uneducated persons; they also would seem to have had conical heads. And Eupolis: One, Hippocrates' sons were supposititious, sheepish lads (= Eupolis fr. 103 Kock). Their names were Telesippos, Demophon and Pericles.' In addition see *Schol. In Aristoph. Nub.* 1001 (fr. 103 Kock); *Schol. In Thesmophor.* 273; Athen. *Deipn.* III.51. Clem. *Strom.* I.12.55 ('swinish' referring to lack of education); Plut. *Vit.pud.* 535F.

³⁴ Chrysippus appears to have argued for the temporal primacy of the heart – implying functional primacy – in the second half of the first book *On the Soul*, i.e. it was one of his cardiocentric arguments: see *PHP* V.277–8 (*CMG* V.4.1.2, 160.29–162.6), *Foet.Form.* IV.699–700 (reference to Chrysippus' *On the Soul* as treated in *PHP*); see also following note.

question is not at all relevant to what they as philosophers should be really concerned about, namely the highest good and happiness.³⁵ Again the tone is markedly different from that in *PHP*.

Another area where Galen acknowledged common ground between Plato and Aristotle and the Stoics was epistemology. Galen accepted the Stoic claim that clarity or obviousness was a sufficient mark of the reliability of a mental presentation.³⁶ Just as the Methodists were a common enemy in physical theory, the Sceptics were the common foe on the issue of the knowability of truth. But even so, it comes as a surprise to see Galen actually writing a tract in defence of a Stoic. In ch. 11 of *On My Own Books* listing 'books useful for demonstrations' Galen includes two treatises directed against Favorinus of Arelate who sought to revive Academic Scepticism: the extant work *On the Best Teaching against Favorinus* and the lost work *In Defence of Epictetus against Favorinus*.³⁷ From the former treatise (*Opt. Doctr.* I.41) we know that the latter was a response to Favorinus' *Against Epictetus*, in which the sophist had presented Plutarch's slave Onesimos engaged in discussion with Epictetus. Further Galen tells us that in it Favorinus argued – presumably using this Onesimos as his mouthpiece – in favour of suspension of judgement. Galen was born too late to have met Epictetus but it is very interesting to see that he was acquainted with the latter's work.

In the area of epistemology we see the same general pattern, that is, that Galen's acceptance of a Stoic theory is combined with an appeal to Hippocrates. This is clear from Galen's commentary on Hippocrates' *Surgery*, where he explains that whereas it is possible to see, touch and hear in a non-cognitive (or 'non-grasping', καταληπτικῶ) way, perceiving (αἰσθάνεσθαι) necessarily involves cognition.³⁸ According to Galen, this is how 'Simias the Stoic' explained the concept of perception; and therefore it was accepted by 'Aeficianus who was an adherent of Stoic philosophy'.³⁹ Galen applauds Aeficianus' reading of the Hippocratic passage at issue as showing, first of all, that Hippocrates spoke about epistemological matters

³⁵ *Foet. Form.* IV.676 (*CMG* V.3.3.80, 14–25); cf. *ibid.* 674 ('Chrysippus and many other Stoic and Peripatetic philosophers'), 699–700 (reference to Chrysippus' *On the Soul* as treated in *PHP*); *Prop. Plac.* ch. 11, *CMG* V.3.2.90–5. For another witness to the keen interest taken in things embryological at the time, with special reference to the Peripatetics, see *Luc. Vit. auctio* 26.

³⁶ See esp. *PHP* V.778 (*CMG* V.4.1.2, 586.16–25), with reference to Chrysippus.

³⁷ *Lib. Prop.* 11, p. 120, ll. 6–6 (*SM* vol. II, Marquardt *et al.*).

³⁸ Von Arnim 1903–5 accepts the passage as a testimony for 'general' Stoic doctrine: *SVF* 2.75.

³⁹ *Hipp. Off. Med.* XVIII.B.654: 'For it is possible to see and touch and hear non-cognitively, but it is no longer possible to perceive non-cognitively. Thus Simias the Stoic in his explanation of perception, which is why also Ificianus (see below n. 43), a pupil of Quintus, accepted it, because he was an adherent of Stoic philosophy. . . . He says that Hippocrates used the word "perceive" with reference to knowledge.'

and, second, that Hippocrates presented his statements as being certifiably true.

Who were Simias and Aeficianus? Galen nowhere else refers to this Simias, who is otherwise unknown.⁴⁰ The passage reads as if he lifted Simias' name and statement from a work by Aeficianus. Aeficianus belonged to the generation of Galen's teachers.⁴¹ Aeficianus had been one of the pupils of the great anatomist Quintus, just as Galen's own teacher in Smyrna, Satyrus had.⁴² About this doctor Galen says that he interpreted Hippocrates in a Stoic, or at least a Stoicising, way.⁴³ This is nicely illustrated by the passage from the *Commentary on Hippocrates' Surgery*. It is tempting to think here of the passages from *MM I* and elsewhere we have been reviewing, where Zeno, Chrysippus and the Stoics in general are presented as self-conscious representatives of a tradition of natural philosophy instigated by Hippocrates – an assumption that could be taken to justify the use of Stoic concepts in Hippocratic exegesis. This facilitated the adoption of Stoic concepts and terms by the avowed Hippocratic Galen too. I submit that much of the Stoic and Stoicising material concerned with physics and epistemology that found its way into the passages of volume II of the *SVF* reflects Galen's reading of Aeficianus' Hippocratic commentaries.⁴⁴

THE STOIC EMPEROR

Another Stoic to be considered is the Emperor Marcus Aurelius, who appointed Galen as one of his court-physicians. This happened by the end of the year 168 after members of the upper class such as Flavius Boethus and Claudius Severus had recommended Galen to him and his co-emperor Lucius Verus. Thus Galen tells us that his Roman friends mentioned his

⁴⁰ The Simmias (two m's) mentioned at *Ant.* XIV.180, 182 as an expert on certain poisons, i.e. as a physician, seems to have been a different person; cf. Simmias 8, *REA* II.3a, col.158 (no further information).

⁴¹ See *AA* II.217–18; cf. 280. ⁴² As remarked by Nutton, ch. 1, p. 27 above.

⁴³ *Ord.Lib.Prop.* XIX.58 (*SM* II.87): Αἰφικιανός μὲν γάρ τι καὶ μετερρῦθμισεν (sc. the exegesis of Hippocrates' writings) ἐπὶ τὸ Στωικώτερον. Note the different spelling of the name. In both cases we are dealing with Quintus' pupil so there can be no doubt about Αἰφικιανός being identical with Ἰφικιανός in *Hipp. Off. Med.* XVIII.B.654.

⁴⁴ It is true that Galen, *Ord.Lib.Prop.* XIX.57–8 (*SM* II.87) first levels criticism at the Hippocratic exegesis of Quintus and his pupils as a group. However, in what follows Galen makes it clear that whereas Satyrus clung to Quintus' exegesis, Aeficianus went his own, Stoic way. Galen goes on to explain that what he heard from his teacher Satyrus about Quintus' readings of Hippocrates and what he read from another pupil of Quintus, Lykos, led him to the conclusion that they (Satyrus, Lykos and by implication Quintus) had misunderstood Hippocrates. Clearly Aeficianus is exempted from Galen's criticism.

name in a discussion about who were successful in medicine and philosophy by deeds as well as words.⁴⁵ The addition of 'philosophy' here may represent a Galenic touch inspired by a compliment paid to him by Marcus Aurelius several years later (see below). But we can be sure that the Emperors were primarily interested in finding new practitioners to add to the medical team already affiliated to the court. Galen, who had left Rome two years before to return to his native Pergamum, had to obey the Emperors' call to join them in Aquileia in Northern Italy, where they were planning a campaign against the Germans. The plague broke out, whereupon the Emperors fled to Rome and Lucius Verus died. Galen had to spend the winter in Aquileia. After Marcus Aurelius, now sole Emperor, had returned to resume the preparations of war, he asked Galen to accompany him on the campaign. Galen told the Emperor that his ancestral patron deity, Asclepius, had forbidden him to do so. The Emperor out of piety towards the god⁴⁶ permitted him to stay in Italy as physician to the crown prince, Commodus.⁴⁷

The relations between him and the Emperor (or the rest of the court for that matter) do not seem to have become close or frequent.⁴⁸ Galen records one successful cure performed on the Emperor in Rome in the autumn of 176, shortly after the latter's return from his military campaigns. By his own account (*Praen.* XIV.658–60 = *CMG* V.8.1.126, 1–128.30), the Emperor turned first to three physicians who had accompanied him on his campaign. When their treatment proves ineffective Galen is asked for his advice. Galen speaks in a straightforward and honest manner which pleases the Emperor. When he finds the correct diagnosis and treatment, Marcus says to a courtier: 'We have one doctor and a highly cultured one (ἐλεύθερος) as well' (*ibid.* 660). Galen then adds: 'As you well know, he was continually speaking of me as the first among physicians and unique among philosophers: for he had already met many who were avaricious, quarrelsome, proud, jealous and spiteful (*ibid.* 660).' This second compliment clearly reflects

⁴⁵ *Praen.* XIV.649 (*CMG* V.8.1.118, 18–20); cf. *ibid.* 647 = *CMG* 116.16–26.

⁴⁶ Cf. *Meditations* V.8.3; cf. I 17.9 – passages which lend credibility to Galen's account.

⁴⁷ *Lib. Prop.* XIX.17–19 (*SM* 2.98.11–99.18); cf. *Praen.* XIV.649–51 (*CMG* V.8.1, 118.20–120.4), where Galen says nothing about his excuse involving Asclepius but tells us that the Emperor granted him leave of absence out of the goodness of his heart (on the terms used in this context, see n. 50 below; on this difference cf. Nutton *ad loc.* See also Nutton 1979: 211–12).

⁴⁸ This is also the conclusion drawn by Schlange-Schöningh 2003: 179–83. The situation does not seem to have changed significantly even after Galen was appointed 'head physician', with the special duty of preparing the Emperor's special daily recipe, the well-known antidote called theriac: see *Antidot.* I.1 with Schlange-Schöningh 2003: 187–98.

the two sides of the ideal Galen had set for himself: that of the doctor-cum-philosopher. It was all the more honorific coming as it did from an Emperor who was a philosopher himself and thus – to apply a Platonic ideal to this Stoic – a Philosopher-King.⁴⁹ On the other hand, the Emperor's compliment, like the one referring to Galen as a man of cultural refinement, pertained to moral attitude, not general philosophical competence. Even so, we never come across any indication that Marcus Aurelius actually turned to Galen for moral advice or conversation on moral subjects. Nor does Galen for his part directly refer to the Emperor as a Stoic or a philosopher.⁵⁰

STOIC BOOKS

We have seen that Galen's discussion with the Stoics during his first sojourn in Rome involved the written works of the great Stoic scholar Chrysippus, in particular: *On the Soul* and *On the Affections*. These Stoics relied on these authoritative works so Galen felt induced to refute the arguments advanced in them. We were even granted a glimpse of Galen disputing with a Stoic the exact meaning of one particular word used by Chrysippus (see p. 288 above). Seen in this light, Galen's extensive quotations from Chrysippus' original works in *PHP* II–III reflect their persisting and central role in contemporary debate. We need not doubt that Galen had himself read the Chrysippean treatise, or at least the second half of the first book – that is, the argument on the seat of the intellect – giving so many clues on its structure and so many quotations that we could hardly conclude otherwise.⁵¹

Galen in *PHP* IV–V also provides a lot of verbatim material from Chrysippus' *On the Affections* and the way he refers to the text leaves hardly any doubt that he had read the original text of Books I and IV instead of using an existing collection of excerpts made by someone else or some epitome. The references to Book 2 are based on Posidonius' *On Affections* and seem to suggest that Galen had had no direct access to this book. About Book III we hear nothing. In sum, Galen had seen with his own eyes copies of at least Chrysippus' *On the Soul* Book I, *On the Affections* I

⁴⁹ Similarly Nutton 1979: 219 (ad 128, 28).

⁵⁰ At *Praen.* XIV.650 (*CMG* V.8.1, 118.26) he refers to Marcus as a good and charitable man: χρηστόν... καὶ φιλόανθρωπον, terms which may allude to his being a philosopher: see Marcus, *Meditations* 12.5.1 (both terms used with reference to god), VII.34.1, IX.11.1 (the gods), 37.1, XI.13.1 ('I').

⁵¹ It is however noteworthy that we hear nothing whatsoever about the second book. For the reconstruction of its remaining part, see Tieleman 1996a: Part II.

and IV and Posidonius' work of the same title.⁵² These then can be added to those of Chrysippus' logical works which had been part of his study of philosophy as a teenager (see p. 285 above).

There are no other Galenic treatises extant where we find the verbatim quotations from original Stoic works that are such a distinctive feature of Galen's style of argument in *PHP* II–V.⁵³ The somewhat disappointing truth seems to be that Galen's reading of the works of Stoics such as Chrysippus and Posidonius remained confined to two periods, namely (1) his time of study in Pergamon, which, as we have seen, concerned logical treatises in particular; and (2) his first stay in Rome, when he read a few more works to use them for his anti-Stoic polemic in *PHP*. In late treatises such as *The Soul's Dependence on the Body* and *The Formation of the Foetus* he is clearly relying upon the memory of the readings he did for *PHP*, as is obvious from the references to this treatise he makes in this connection (see pp. 291ff. above).

That the quotation of Stoic passages was very much part of anti-Stoic polemic is further illustrated by a few passages from *PHP*, which might suggest that Galen had read more Chrysippean treatises but which on closer inspection warrant no such conclusion. At *PHP* V.380 (*CMG* V.4.1.2, 250.3–12), Galen illustrates Chrysippus' inconsistencies by playing off against one another two different definitions of desire used by Chrysippus in the first book *On the Affections*, the sixth of his *Generic Definitions* and his *On Conation*. (The doctrinal details need not detain us here.) Likewise, at *PHP* V.5.442–3 (*CMG* V.4.1.2, 302.31–304.1) Galen opposes a passage from the fourth book of *On Affections* (the so-called *Therapeutics*) to a definition from Chrysippus' *On Reason*. As we have seen, Books 1 and 4 of the *On Affections* had certainly been read by Galen. However, all the other works referred to in these two passages occur there only, that is to say, never again in his vast body of writings did he refer to any one of them. I think this is significant. I do not believe that Galen had turned to them to look up something to use against Chrysippus for this one occasion. It is far more likely that he could avail himself of a ready-made collection of Stoic self-contradictions, that is, the tradition also exemplified by Plutarch in his

⁵² References to two further tracts by Chrysippus, viz. *The Difference Between the Virtues* and *The Virtues Are Qualities* are found embedded in that part of his critique of the Chrysippean theory of emotion (*PHP* V.660–1, V.600 = *CMG* V.4.1.2, 4901–9, 438.19–23) where he turns Posidonius against Chrysippus; cf. V.661 (*CMG* V.4.1.2, 490.8–9). At *QAM* IV.819–20 (*SM* II.78) Galen is explicit about the fact that Posidonius in his *On Affections* dealt with the former of these Chrysippean works. We need not doubt that Galen's knowledge of them was derived from Posidonius.

⁵³ Book I is largely lost but its preserved section, as well as references to its content in the later books, suggest that Galen did not include so many quotations there.

On the Self-Contradictions of the Stoics.⁵⁴ In fact, Galen, *PHP* IV.5.380 (CMG 250.3–6) announces that he will write an entire work of this kind himself in times of greater leisure. Even more striking is the fact that at V.661 (CMG V.4.1.2, 490.5–9), from Book 8 written several years later, he tells us that he has completed this compilation of Chrysippean inconsistencies. To my knowledge, this is the only indication as to the existence of this work. If we may believe him, its composition will have involved the reading of far more original Chrysippean works, that is to say, Galen will not have limited himself to existing works of the same genre. But it is rather odd (not to say suspect) that this work should have left no traces in the preserved writings.

CONCLUSION

At the beginning of this study I advocated what may be called an ‘external’ approach to the question of Galen’s relation to Stoicism, one focusing on Stoic persons and books. I argued that such an approach was useful, if not indispensable, as a preliminary to a full-scale study of conceptual relations. With this in mind I undertook a survey of the data provided by Galen, sometimes in spite of himself, given his omission of many names and facts. Both in polemicising against Stoicism (specifically, part of Stoic psychology) and in availing himself of the authority of Chrysippus and Stoicism whenever possible (Stoic theory of elements, epistemology) Galen testifies to the fact that Stoicism was still a living force and a distinguished philosophy. Galen bears witness to extensive contacts and discussions with Stoics over philosophical issues, especially during his first stay in Rome (see *The Stoics of Rome* above).

Galen had to reject Stoicism where the soul’s structure and substance were concerned but in other respects he seems keen to include them in the tradition of good philosophy and medicine that he traces back to Hippocrates. Here, as we have seen in section 4, he found support in the Stoicising exegesis of Aeficianus, who postulated a tradition of physical doctrine founded by Hippocrates and continued by the Stoics. This, then, is a variety of Stoicism that had already been adopted and adapted within medical circles. I would submit it is the source of inspiration behind many Stoicising passages on physical and epistemological subjects in Galen’s work. By contrast, his readings of original expositions by early Stoics seem to have been fairly limited, namely to the handful of psychological and

⁵⁴ At *PHP* V.300 (CMG V.4.1.2, 182.24–7) Galen refers to Plutarch’s lost *Homeric Studies*, on which, as Nutton in this volume suggests (p. 24 above) Galen may have drawn in criticising Chrysippus’ use of the poets.

logical treatises listed in the section on Stoic Books above. Further, the fact that Galen was one of the physicians to the Stoic Emperor Marcus Aurelius seems to have been of no influence upon his attitude towards, or understanding of, Stoicism. The evidence suggests that it is very unlikely that the two men ever discussed philosophy.

The broadside against Chrysippean psychology in *PHP* seems to stand somewhat apart when one considers Galen's attitude towards Stoicism throughout his long career. So is Galen's attitude towards Stoicism divided? From Galen's point of view there is hardly any inconsistency: he felt justified in selecting what is best from various schools, although he developed a particular vision of the scientific and philosophical past so as to lend coherence and respectability to his selection. In this grand tradition Hippocrates and Plato were included wholesale, whereas Aristotle and Chrysippus stood with one leg outside it. Their work was open to criticism wherever they went astray. Yet the polemical fervour of Galen's first stay in Rome appears gradually to have given way to a more favourable, or at least more nuanced, attitude. Treatises of Galen's old age such as *QAM* and *Foet. Form.* still show him reacting against Stoic ideas but in a more detached manner, even when persisting points of disagreement are concerned. Much to the historian's regret, what remained until the end was his habit of withholding the names of the Stoics involved.

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